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Botany Program

PRELIMINARY BOTANICAL SURVEY TONGUE RIVER AREA

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for

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I. INTRODUCTION

The purpose of this study was to refine the information base for conducting systematic botanical surveys for Montana Plant Species of Special Concern within the Tongue River vicinity. The main objectives were to identify study area targets among the Montana Plant Species of Special Concern, to characterize the habitats potentially harboring them, and to present technical background information needed to conduct baseline and project clearance surveys. This pilot project represents synthesis of existing secondary information augmented by field reconnaissance.

Montana Natural Heritage Program (MTHP) collects and compiles data on the elements of biological diversity in Montana, including plants species and other biological features that are known or suspected to be rare, endemic, disjunct, threatened, or endangered throughout their range or in Montana. The levels of information and growth in information present in the Biological Conservation Database (BCD) information repository are not uniform across the state, but are determined by innate biological and biogeographic differences and the historical patterns of botanical study, as well as by recent study initiatives and support for expanding the information base.

Limited botanical information resources are available for the Tongue River vicinity, as they are for much of eastern Montana. In the face of incomplete information, one can make unfounded inferences, or develop a system of setting targets and adopting a standard methodology to survey for them. This report presents a replicable framework for setting targets among Montana Plant Species of Special Concern and presents the slate of targets for the Tongue River Area.

II. STUDY AREA

The Tongue River study area is in southeastern Rosebud County. Four discrete segments were identified as having primary interest to the Department of Environmental Quality (DEQ), all centered around Colstrip. Fieldwork reconnaissance spanned the highest priority DEQ segments east of Colstrip. In addition, the Fort Keogh Livestock Range and Research Laboratory at Miles City, downstream in Custer County, was included in this stage of fieldwork because it has been documented as having a relatively large number of Montana Plant Species of Special Concern, much of its habitat is similar to that in the Colstrip area, and there are many outstanding questions about the habitat requirements and status of its potentially rare species.

The study area will be referred to as the Tongue River area throughout this report, consistent with the DEQ focus. The database search spanned surrounding counties as they shed light on the Tongue River area of Rosebud County, including all of Rosebud, Big Horn, Custer, Powder River, Treasure, and Yellowstone counties. They all share the prevailing surface geology, and are not well studied compared to similar-size areas of western Montana.

The sweeping, unglaciated landscape of the Tongue River vicinity is carved by erosion out of the Fort Union Formation, a heterogeneous Paleocene sedimentary deposit made up of sandstone, shale, bentonite, lignite, and other materials. It is dissected by Quaternary alluvial deposits along major rivers and tributaries. It lies entirely within the unglaciated segment of the Great Plains biogeographic province, but is part of the extensive Yellowstone Highlands subregion, a dry plains area of extensive pine woodland reflecting the Black Hills and Big Horn Mountains influence. The biogeography of the flora is accordingly dominated by the Great Plains flora with major Rocky Mountains influence, and minor contributions among Great Basin, Central Plains, and eastern deciduous forest influences.

The flora and the vegetation of the Tongue River vicinity and of eastern Montana in general have not been well-documented apart from general vegetation and sensitive species studies on Custer National Forest, vegetation studies on Cheyenne Reservation lands, unpublished mine studies and initial BLM studies. The most complete floristic information for the Colstrip area is presented in Coenenerg (1983); reviewed for purpose of this study (see next page). The task of expanding current botanical information requires that one assemble and synthesize a broad set of existing background botanical and other reference materials. The primary references used in the course of this study are listed in Table 1.

Table 1. References for conducting botanical survey in the Tongue River vicinity

Cartographic references

BLM Surface management maps (1:100,000)
USGS topographic quadrangle maps (1:24,000)

General floras

- Dorn, R. D. 1977. Flora of the Black Hills. Mountain West Publishing, Cheyenne, WY. 377 pp.
- Dorn, R. D. 1984. Vascular plants of Montana. Mountain West Publishing, Cheyenne, WY. 276 pp.
- Dorn, R. D. 1992. Vascular plants of Wyoming. Mountain West Publishing, Cheyenne, WY. 340 pp.
- Great Plains Flora Association. 1977. Atlas of the Flora of the Great Plains. The Iowa University Press, Ames. 600 pp.
- Great Plains Flora Association. 1986. Flora of the Great Plains. University Press of Kansas, Lawrence. 1392 pp.

Local floristic lists

- Anonymous. No date. Unpublished list of species in the Herbarium of the Fort Keogh Livestock and Range Research Laboratory. Miles City, MT. 9 pp
- Coenenberg, J. G. 1983 revision. Plants of the Colstrip area. Unpublished list for Western Energy Company. 23 pp.

Soils Surveys

General vegetation references

- Cooper, S. V. and R. L. DeVelice. 1995. Matrix of plant community classification/association types by state and global rank and occurrence by Bureau of Land Management Resource Areas. Montana Natural Heritage Program, Helena. 46 pp.
- Hansen, P. L. and G. R. Hoffman. 1987. The vegetation of the Grand River/Cedar River, Sioux and Ashland Districts of Custer National Forest: a habitat type classification. Gen. Tech. Report RM-157. USDA Forest Service Rocky Mountain Forest and Range Expt. Stn. 68 pp.
- Hanson P. L. et al. 1995. Classification and management of Montana's riparian and wetland sites. Montana Forest and Conservation Experiment Station, University of Montana, Misc. Publ. No. 54.

III. METHODS

The references outlined in Table 1 were assembled to conduct field surveys for Montana Plant Species of Special Concern (Heidel 1996a). The next step was to search the state element occurrence database maintained by Montana Natural Heritage Program in the Biological Conservation Database (BCD) for plant records. The customary data search done for environmental reviews is designed to span a 1-10 mile radius around a given project area. A revised approach is recommended for baseline botanical fieldwork survey projects as represented in this study. The likelihood of any single area of eastern Montana being surveyed in the past is slim, so a search that spans the county and adjoining counties was conducted. Element occurrence records (EORs) were printed out of Montana Plant Species of Special Concern in the six-county area centered on the Tongue River study area to identify known and prospective rare plant species. The records presented in full in Appendix A, mapped in Figure 1, and species photo reproductions are printed in Appendix B.

The next step was to identify which of the species occupy habitat as found in the project area or site. For eastern Montana, this is best done by comparing species' habitat descriptions against soils information and any other available information about the area or site as well as by on-site inspection. Species' habitat information is available on the individual EORs under general description, and it is summarized in a description of species' statewide habitat that is now completed for all Montana Plant Species of Special Concern. The results of the search for species and their habitats across the six-county area as it may apply to Tongue River project areas is summarized in Table 2.

We have developed search engines on the Internet so that both steps of fieldwork preparation can be conducted start-to-finish with Internet connections from anywhere in the state. We are still maintaining the services for users without Internet access. The Internet option will enable users to compile lists of Montana Plant Species of Special Concern by county, and to look up the habitat descriptions for each species in guidebook entries posted for each species. The species identified for the six-county area, and their habitats, are presented in Table 2 as the targets for the Tongue River fieldwork reconnaissance, with notes made from the guidebook text on their habitat requirements.

The final step in this baseline survey was to conduct a two-pronged field evaluation:

1. Locate the habitats potentially harboring rare species including the best and largest examples, and survey for the species
2. Identify the full range of environmental conditions on the landscape and visit a representative set to conduct floristic reconnaissance for any other targets species which may not be previously known from the area.

Figure 1. Montana Plant Species of Special Concern for consideration in the Tongue River Area

Montana Plant Species of Special Concern

for consideration in the Tongue River Area

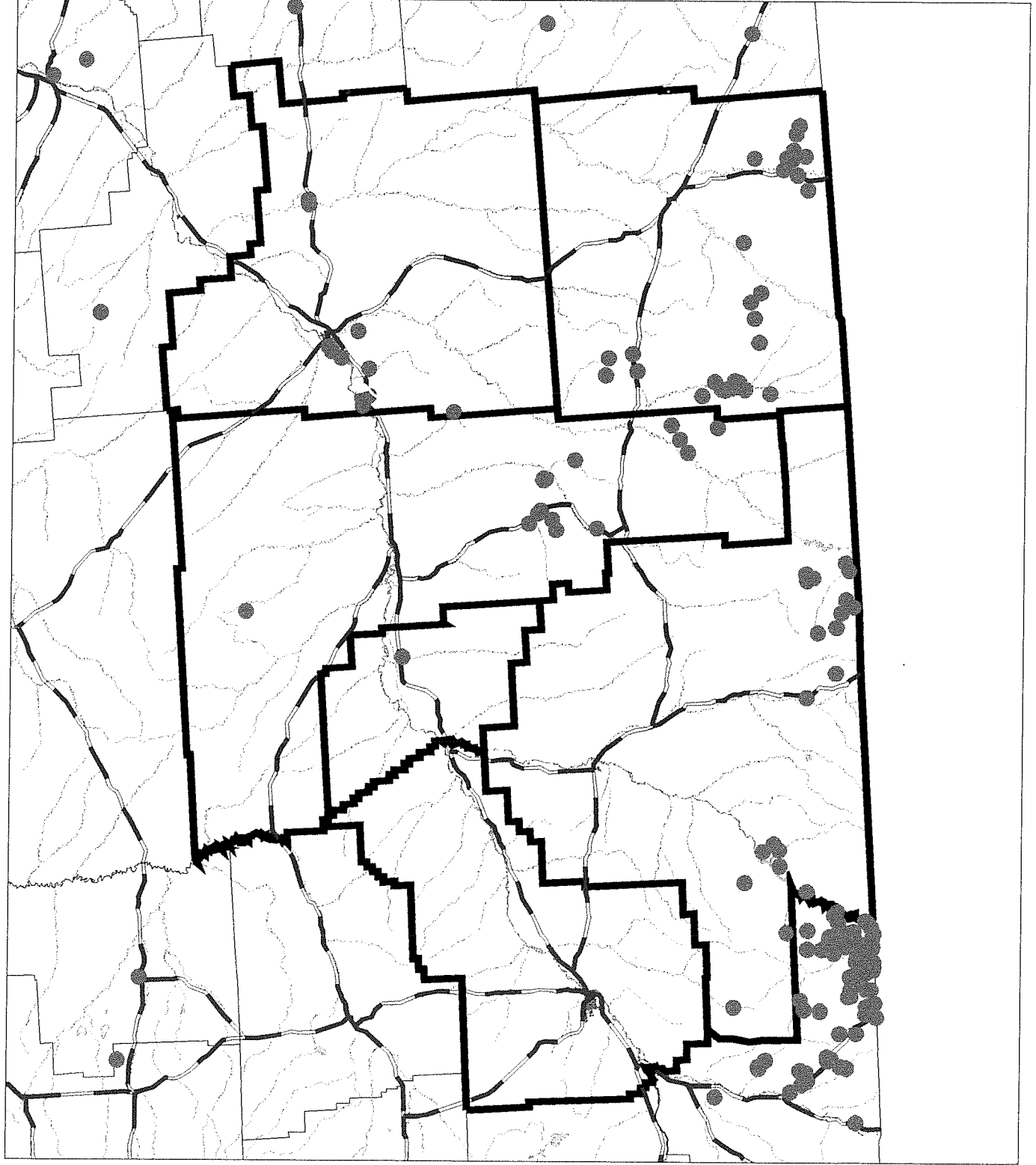


Table 2. MONTANA PLANT SPECIES OF SPECIAL CONCERN CONFIRMED OR POTENTIALY WITHIN TONGUE RIVER PROJECT AREAS¹

SCIENTIFIC NAME	COUNTY OF DISTRIBUTION	HABITAT
<i>Amorpha canescens</i> Leadplant	CART, ROSE	Presumed to be in thinsoil upland
<i>Asclepias stenophylla</i> Ovalleaf Milkweed	CART, ROSE	Loose upland sand
<i>Aster simplex</i> var. <i>ramosissimus</i> Branching aster	POWD	Floodplain
<i>Astragalus barri</i> Barr's milkvetch	BIGH, CART, POWD, ROSE	Calcareous shale and siltstone outcrops
<i>Astragalus racemosus</i> Raceme milkvetch	CART, CUST, FALL	Shale and thinsoil uplands
<i>Bidens frondosa</i> Beggar's-ticks	CUST	Wetland/riparian
<i>Carex gravida</i> Pregnant sedge	BIGH, POWD, ROSE	Woody draws, possibly other deciduous uplands
<i>Ceanothus herbaceus</i> New Jersey Tea	POWD	Open pine forest; possibly moist microhabitat

¹This list includes species which are being tracked, which were considered for tracking prior to this project, or which are being considered as a results of this project.

<i>Chenopodium subglabrum</i> Smooth Goosefoot	CART, CASC, CUST	Loose upland and riparian sand
<i>Cyperus schweinitzii</i> Schweinitz' Flatsedge	CART, CASC, CUST, SHER	Loose upland sand, possible riparian sand
<i>Dalea enneandra</i> Nine-anther Dalea	CUST, RICH, YELL	Gravelly, possibly sandy upland slopes
<i>Dichanthelium oligosanthes</i> var. <i>scribneri</i> Scribner's Panic Grass	LAKE, POWD	Sandy, open settings in pine woodland
<i>Eupatorium maculatum</i> Joe-pye Weed	BIGH, CARB, ROSE	Wetland margins
<i>Evax prolifera</i> Big-head Evax	CUST, POWD	Badlands outwash
<i>Lomatium nuttallii</i> Nuttall's Desert-parsley	BIGH	Loose sand around outcrops
<i>Mentzelia nuda</i> Bractless Mentzelia	PARK, POWD	Sandy or gravelly upland slopes
<i>Penstemon angustifolius</i> Narrowleaf Penstemon	CART, DAWS, CUST, MISS	Sandy uplands
<i>Penstemon grandiflorus</i> Large-flowered Beardtongue	CUST	Loose floodplain sand
<i>Phlox andicola</i> Plains Phlox	CART, DAWS, ROSE, WIBA	Loose upland sand
<i>Physaria didymocarpa</i> var. <i>lanata</i> Wooly Twinpod	BIGH	Clinker and shale outcrop
<i>Plagiobothrys leptocladus</i> Slender-branched Popcorn-flower	CUST, GLAC, PHIL	Wetland
<i>Prunus pumila</i> Sand Cherry	FALL, MCCO	Sandy or rocky upland

<i>Psoralea hypogaea</i> Little Indian Breadroot	CASC, CHOT, ROSE	Loose upland sand
<i>Rorippa calycina</i> Persistentsepal Yellowcress	CASC, CHOT, CUST, MCCO, YELL	Sandy river terrace edge
<i>Sporobolus asper</i> Longleaf Dropseed	CART, CASC, POWD	Unknown
<i>Viburnum lentago</i> Nannyberry	BIGH, ROOS	Open forest and grassland

Fieldwork was conducted June 10-11 and August 28-30 of 1996, focusing on the public lands east of Colstrip during the first period, and on Fort Keogh Livestock and Range Laboratory during the second period. In the Colstrip area, the survey targeted the range of potential habitats as present on public lands. In the Fort Keogh area, the focus was on relocating collection sites of Montana Plant Species of Special Concern if information was sparse or absent on species' habitat requirements. All new records were documented on a standard survey form (Appendix C). They were photographed, and collections were made for vouchers that have been deposited at the University of Montana in keeping with the Montana Native Plant Society guidelines (1993). All field information was subsequently transcribed and mapped for entry into the Biological Conservation Database.

IV. PRELIMINARY RESULTS AND DISCUSSION

Three Montana Plant Species of Special Concern were newly documented in the immediate Tongue River study area: *Asclepias stenophylla*, *Phlox andicola* and *Psoralea hypogaea*. A new record was made of a species that had been previously documented: *Astragalus barrii*. One other species that was considered a Montana Plant Species of Special Concern, *Evax prolifera*, was dropped from tracking because it was determined to be an increaser under heavy grazing and unlikely to be imperiled.

In the Fort Keogh area, one new addition to the state flora was documented: *Bidens frondosa*, associated with trampled riparian habitat and put onto the state watch list. The single known record of *Penstemon grandiflorus* was relocated, but the species is unlikely to have potential habitat in Tongue River area. Efforts to relocate *Cyperus schweinitzii* and *Sporobolus asper* were unsuccessful.

The new information that was collected on the current Montana Plant Species of Special Concern is presented among the element occurrence records in Appendix A for the following:

Asclepias stenophylla #004
Astragalus barrii #038
Penstemon grandiflorus #001
Phlox andicola #004
Psoralea hypogaea #005, #006

Information collected on watch species (*Bidens frondosa*, *Evax prolifera*, *Ipomopsis congesta* var. *pseudotypica*, *Sporobolus asper*), including collection records and a synopsis of their current status, is on file separately. There are now four species confirmed as occurring in the Tongue River study area. Seven more species were identified as potentially occurring here. They are identified in Table 3, next page. Most

of them occupy sandy upland range sites, with possibly exception of *Amorpha canescens*, *Astragalus barrii*, *Carex gravida*, and *Rorippa calycina*. We do not rule out the possibility of other species identified in Table 2 occurring here, but they have low likelihood as determined from known distribution and habitat information.

Table 3. REVISED MONTANA PLANT SPECIES OF SPECIAL CONCERN LIST FOR TONGUE RIVER AREA

SCIENTIFIC NAME	TONGUE R. STATUS	GLOBAL RANK	STATE RANK	STATUS REPORT
<i>Amorpha canescens</i>	In question	G5	SH	Vanderhorst et al. In prog
<i>Asclepias stenophylla</i>	Confirmed	G4G5	S1	Heidel and Dueholm 199
<i>Astragalus barrii</i>	Confirmed	G3	S3	Heidel and Marriott 1996
<i>Carex gravida</i>	Suspected	G5T?	S1	Heidel and Marriott 1996
<i>Chenopodium subglabrum</i>	Suspected	G3	S1	Vanderhorst et al. In prog
<i>Cyperus schweinitzii</i>	Suspected	G5	S1	Vanderhorst et al. In prog
<i>Lomatium nuttallii</i>	Suspected	G4	S1	-
<i>Mentzelia nuda</i>	Suspected	G5	S1	-
<i>Phlox andicola</i>	Confirmed	G4	S1	Heidel and Dueholm 1995
<i>Psoralea hypogaea</i>	Confirmed	G5T4?	S2	Heidel 1997a
<i>Rorippa calycina</i>	Suspected	G3	S1	-

Three of the species above are regional endemics (Global rank = G3; globally vulnerable), but most are at the margins of their range. Almost all are known from five or fewer occurrences in the state (State rank = S1). Leadplant (*Amorpha canescens*) has been reported from the Colstrip area (Coenenberg 1983) but we have not been able to find collection records to date. This is a species which is otherwise only known from historic collection records in Montana (State rank = SH).

Copies of the most current status reports for the species documented in the study area are cited in the table above. These status reports present statewide status information but emphasize the study area in question. The Tongue River study took place subsequent to most of these reports. We are currently engaged in a botanical survey of Bureau of Land Management lands in Carter County (Vanderhorst et al. In progress) which is expected to expand and revise this information for several species.

It is interesting to note that two of the taxa identified in Table 2, *Evax prolifera* and *Ipomopsis congesta* var. *crebifolia*, were recently discovered as additions to the state flora (Heidel and Marriott 1996, Heidel 1996b). New populations of both taxa were subsequently discovered in the Tongue River study area during this project, expanding their known distribution. This corroborates the remark that the flora of the study area has not been well-studied, and supports the case for thorough project surveys.

The results of this preliminary Tongue River botanical survey have recently been used to revise the content and status information among the Montana Plant Species of Special Concern (Heidel 1997b). This preliminary Tongue River study represent a compilation of the best available botanical information, but it is only a starting point for conducting initial project reviews, project clearances and determinations of effects.

V. LITERATURE CITED

- Heidel, B. L. 1996a. Montana Plant Species of Special Concern. Unpublished list. Montana Natural Heritage Program, Helena.
- Heidel, B. L. 1996b. New additions to the flora of Montana. Madrono 43(3): 436-440.
- Heidel, B. L. 1997a. Woodhawk Botanical Survey, Fergus County, Montana. Unpublished report to the Bureau of Land Management. Montana Natural Heritage Program, Helena. 43 pp. + app.
- Heidel, B. L. 1997b. Montana Plant Species of Special Concern. Unpublished list. Montana Natural Heritage Program, Helena.
- Heidel, B. L. and K. H. Dueholm 1995. Sensitive plant species survey in the Sioux District of Custer National Forest, Carter County Montana and Harding County, South Dakota. 95 pp. + app.
- Heidel, B. L. and H. Marriott. 1996. Sensitive plant species survey in the Ashland District, Custer National Forest, Powder and Rosebud counties, Montana. Montana Natural Heritage Program, Helena. 94 pp. + app.
- Montana Native Plant Society. 1993. Guidelines for collecting native plants. Unpublished flier. 2 pp.
- Vanderhorst, J., S. V. Cooper and B. L. Heidel. In progress. Carter County Botanical Survey - Vegetation and Sensitive Species. Unpublished report to the Bureau of Land Management. Montana Natural Heritage Program, Helena.

Appendix A. Element Occurrence for Plant Species of Special Concern for consideration in the Tongue River Area

June, 1997

1

Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: AMORPHA CANESCENS
Common Name: LEAD PLANT

Global rank: G5 Forest Service status:
State rank: SH Federal Status:

Element occurrence code: PDFAB08020.003
Element occurrence type:

Survey site name: COLSTRIP
EO rank:
EO rank comments:

County: ROSEBUD

USGS quadrangle: COLSTRIP WEST

Township: Range: Section: TRS comments:
002N 041E 33

Precision: G
Survey date: Elevation: 3260 -
First observation: 1983 Slope/aspect:
Last observation: 1983 Size (acres):

Location:
COLSTRIP AREA.

Element occurrence data:

General site description:

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
GENERAL LOCATION RECORD; LEGAL DESCRIPTION DERIVED BY MTNHP.

Information source: COENENBERN, J. G. 1983. PLANTS OF THE COLSTRIP
AREA. WESTERN ENERGY COMPANY, COLSTRIP, MONTANA.
24 PP.

Specimens:

June, 1997

2

Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASCLEPIAS STENOPHYLLA
Common Name: NARROWLEAF MILKWEED

Global rank: G4G5 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDASC021U0.004
Element occurrence type:

Survey site name: ROSEBUD CREEK
EO rank: B
EO rank comments: GOOD HABITAT BUT RESTRICTED TO SMALL AREA.

County: ROSEBUD

USGS quadrangle: HAMMOND DRAW SW

Township: Range: Section: TRS comments:
001N 042E 14 SE4NE4

Precision: S
Survey date: 1996-06-10 Elevation: 3140 -
First observation: 1996-06-10 Slope/aspect: 2% / SSW
Last observation: 1996-06-10 Size (acres):

Location:
FROM COLSTRIP, TAKE HWY 315 CA. 3.5 MILES SOUTH TO SOUTH FORK COW
CREEK ROAD. TAKE THIS ROAD CA. 5 MILES EAST. HIKE CA. 0.5 AIR MILES TO
SITE.

Element occurrence data:
100-150 PLANTS IN VEGETATIVE CONDITION IN ONE HIGHLY LOCALIZED AREA.

General site description:
SANDY AREA AT BASE OF SANDSTONE ESCARPMENT OUTCROPS LOCALLY DOMINATED
BY SCHIZACHYRIUM SCOPARIUM-CAREX FILIFOLIA IN PARTIAL SHADE OF PINUS
PONDEROSA. ASSOCIATED SPECIES: PSORALEA HYPOGAEA, ALLIUM TEXTILE,
CHRYSOPSIS VILLOSA. BOTH ASCLEPIAS OVALIFOLIA AND A. PUMILA ARE IN THE
SURROUNDING AREA.

Land owner/manager:
BLM: MILES CITY DISTRICT, POWDER RIVER RESOURCE AREA

Comments:

Information source: HEIDEL, BONNIE. [BOTANIST] MONTANA NATURAL
HERITAGE PROGRAM, 1515 EAST SIXTH AVENUE, P.O. BOX
201800, HELENA, MT 59620-1800. WORK: 406/444-3009.

Specimens:

June, 1997

3

Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS ARETIOIDES
Common Name: SWEETWATER MILKVETCH

Global rank: G4 Forest Service status:
State rank: S2 Federal Status:

Element occurrence code: PDFAB0F0R0.004
Element occurrence type:

Survey site name: GRAPEVINE DOME
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: GRAPEVINE DOME

Township: Range: Section: TRS comments:
005S 029E 36 SW4

Precision: M
Survey date: Elevation: 4440 -
First observation: 1953 Slope/aspect:
Last observation: 1953-07-02 Size (acres): 0

Location:
GRAPEVINE MOUNTAIN (DOME), NORTH OF BIGHORN CANYON.

Element occurrence data:
IN FLOWER (2 JULY 1953).

General site description:
IN SHALLOW, ROCKY, SANDY-LOAM FROM TENSLEEP SANDSTONE.

Land owner/manager:
CROW INDIAN RESERVATION

Comments:
NONE.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: WRIGHT, J. C. AND N. L. ANDERSON. (S.N.). 1953. MONT.
(MRPP CARD).

June, 1997

4

Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS ARETIOIDES
Common Name: SWEETWATER MILKVETCH

Global rank: G4 Forest Service status:
State rank: S2 Federal Status:

Element occurrence code: PDFAB0F0R0.005
Element occurrence type:

Survey site name: BIG HORN CANYON
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: UNMAPPABLE

Township: Range: Section: TRS comments:

Precision: U
Survey date: Elevation: -
First observation: 1953 Slope/aspect:
Last observation: 1953-07-02 Size (acres):

Location:
NORTH SIDE OF BIG HORN CANYON.

Element occurrence data:
COMMON ON RIM.

General site description:
LIMESTONE.

Land owner/manager:

Comments:
LOCATION DATA TOO GENERAL TO MAP; OCCURRENCE MAY BE CLOSE TO GRAPEVIDE
DOME. OCCURRENCE # 004 WAS COLLECTED SAME DAY.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: WRIGHT, J. C. (S.N.) 1953. MONT. (MRPP CARD).

June, 1997

5

Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.001
Element occurrence type:

Survey site name: BIDDLE
EO rank: B
EO rank comments: MODERATE-SIZED POPULATION, HABITAT IN FAIRLY GOOD
CONDITION.

County: POWDER RIVER

USGS quadrangle: BIDDLE

Township: Range: Section: TRS comments:
008S 052E 22 CENTER, E2E2

Precision: S
Survey date: 1986-05-20 Elevation: 3440 -
First observation: 1961 Slope/aspect:
Last observation: 1986-05-20 Size (acres): 15

Location:
ALONG BLUFF ON E. SIDE OF ST. HWY. 59, 1.7 MILES N. OF BIDDLE,
OVERLOOKING THE LITTLE POWDER RIVER. ALSO JUST WEST OF HIGHWAY
(LESICA, 1986).

Element occurrence data:
"FORMING DOMED CUSHIONS UP TO 5 DM IN DIAMETER" (BARNEBY 13233); 1986:
CA. 200-250 PLANTS, MOST IN FLOWER; EVIDENCE OF LIGHT GRAZING BY
HORSES.

General site description:
ON LOW SANDSTONE BLUFF; ARTEMISIA TRIDENTATA/GRASSLAND, WITH OPUNTIA
POLYACANTHA, ARTEMISIA FRIGIDA, BOUTELOUA GRACILIS, KOELERIA
MACRANTHA, CRYPTANTHA CELOSIOIDES, PHLOX SP., POA.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
SPECIMEN VERIFIED BY M. ROBERTS, 1977.

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SHELLY, J. S. (1058). 1986. MONTU.
BARNEBY, R. C. (13233). 1961. SPECIMEN #264047. RM.

June, 1997

6

Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.002
Element occurrence type:

Survey site name: BUTTE CREEK
EO rank: BC
EO rank comments: SMALL POPULATION, LOW % FLOWERING.

County: POWDER RIVER
USGS quadrangle: BALDY PEAK

Township: Range: Section: TRS comments:
007S 050E 04 S2SE4

Precision: S
Survey date: 1986-05-21 Elevation: 3350 -
First observation: Slope/aspect:
Last observation: 1986-05-21 Size (acres): 2

Location:
POWDER RIVER BADLANDS, 0.2-0.45 AIR MILES E. OF THE BUTTE CREEK RD.,
0.8 MI. S. OF ITS JUNCTION WITH THE POWDER RIVER RD., E. OF BUTTE
CREEK.

Element occurrence data:
CA. 70-80 PLANTS, 2 SUBPOPULATIONS; 50% IN FLOWER AND EARLY FRUIT;
SOME SIGNS OF LIGHT GRAZING; THIS MAY BE A RELOCATION OF A HISTORICAL
COLLECTION, "BUTTE CREEK," CITED BY R. BARNEBY (1956).

General site description:
ERODING SILT-CLAY SOIL, IN BARREN, LEVEL TO SLOPING AREAS; WITH
ARTEMISIA TRIDENTATA/AGROPYRON SPICATUM, JUNIPERUS SCOPULORUM,
ASTRAGALUS SPATULATUS, A. GILVIFLORUS.

Land owner/manager:
BLM: MILES CITY DISTRICT, POWDER RIVER RESOURCE AREA

Comments:

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SHELLY, J. S. (1064). 1986. MONTU.
CONSIDINE, MRS. (S.N.). NO DATE. "HERB. BARR" (BARNEBY,
1956).

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.003
Element occurrence type:

Survey site name: DECKER
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: PEARL SCHOOL

Township: Range: Section: TRS comments:
009S 039E 25 NE4

Precision: M
Survey date: 1983-06-18 Elevation: 3760 -
First observation: 1983 Slope/aspect:
Last observation: 1983-06-18 Size (acres): 0

Location:
CA. 1 MI. SOUTH OF SQUIRREL CREEK AND 1/2 MI. WEST OF DECKER-SHERIDAN
ROAD, ON THE CX RANCH.

Element occurrence data:
COMMON.

General site description:
BARREN CLAY SOIL ON RIDGETOP, WITH HAPLOPAPPUS ACAULIS AND ERIOGONUM
PAUCIFLORUM.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: LESICA, P. (2604). 1983. SPECIMEN #092888. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.004
Element occurrence type:

Survey site name: COLSTRIP
EO rank:
EO rank comments:

County: ROSEBUD

USGS quadrangle: COLSTRIP SE

Township: Range: Section: TRS comments:
001N 041E 11 NE4

Precision: M
Survey date: 1975-05-20 Elevation: 3580 -
First observation: 1975 Slope/aspect:
Last observation: 1975-05-20 Size (acres): 0

Location:
MONTANA STATE DEPT. OF HEALTH MONITORING SITE, 1.5 MI. SE. OF
COLSTRIP.

Element occurrence data:
UNKNOWN.

General site description:
STEEP BUTTE WITH MANY ROADCUTS AND GRAZING MARKS; ON BORDER OF
WATERSHED 10100003.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: LACKSCHEWITZ, K. H. (5950). 1975. SPECIMEN #076530.
MONTU. DUP. DET. R. BARNEBY, NY.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.005
Element occurrence type:

Survey site name: MILLER COULEE
EO rank:
EO rank comments:

County: ROSEBUD

USGS quadrangle: COLSTRIP SE
COLSTRIP SW

Township: Range: Section: TRS comments:
001N 041E 22 NW4SW4

Precision: S
Survey date: 1985-05-18 Elevation: 3440 -
First observation: 1985 Slope/aspect:
Last observation: 1985-05-18 Size (acres): 0

Location:
CA. 0.2 AIR MILES NORTH OF MILLER COULEE, CA. 4.5 AIR MILES SOUTH OF
COLSTRIP.

Element occurrence data:
"JUST OVER FENCE FROM 'AREA A' RECLAMATION" (BIG SKY STRIP MINE)."

General site description:
ON BARREN, DECOMPOSING SANDSTONE CAP; IN SPARSE VEGETATION SURROUNDED
BY PINUS PONDEROSA, WITH HYMENOPAPPUS FILIFOLIUS, OTHERS.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
SPECIMEN KEYED WELL TO THIS SPECIES.

Information source: SCHAESSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SCOW, K. (S.N.). 1985. WESTECH (HELENA, MT).

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.007
Element occurrence type:

Survey site name: BIDDLE SCHOOL SECTION
EO rank: A
EO rank comments: LARGE POPULATION, MOST SITES NOT HEAVILY IMPACTED
BY GRAZING

County: POWDER RIVER

USGS quadrangle: BIDDLE

Township: Range: Section: TRS comments:
008S 052E 36 N2,SW4

Precision: S
Survey date: 1986-05-20 Elevation: 3600 -
First observation: 1986 Slope/aspect:
Last observation: 1986-05-20 Size (acres): 128

Location:
CA. 2 AIR MILES ESE OF BIDDLE, 0.3-0.9 AIR MILES NE OF THE
BIDDLE-RIDGE ROAD, 2.25 MILES SE OF ITS JUNCTION WITH STATE HWY 59,
NORTH OF RANCH CREEK.

Element occurrence data:
CA. 600-700 PLANTS, IN 10 SUBPOPULATIONS; FLOWER AND EARLY FRUIT;
EVIDENCE OF LIVESTOCK GRAZING, ESPECIALLY ON LOWER SLOPES.

General site description:
GULLIED SLOPES, BLUFFS, AND ALONG RIDGELINES, IN CLAY SOIL DERIVED
FROM SAND AND SILTSTONE; ARTEMISIA TRIDENTATA/ ATRIPLEX
CONFERTIFOLIA/GRASSLAND "BADLANDS".

Land owner/manager:
STATE LAND - UNDESIGNATED

Comments:
SEE GMF FOR BASE MAP SHOWING SUBPOPULATIONS.

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SHELLY, J. S. (1059). 1986. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.008
Element occurrence type:

Survey site name: BOBCAT CREEK
EO rank: C
EO rank comments: SMALLER POPULATIONS, PRIVATE LAND, HEAVY GRAZING
IN AREA.

County: POWDER RIVER

USGS quadrangle: BIDDLE

Township:	Range:	Section:	TRS comments:
008S	052E	25	NE4
008S	053E	30	SW4

Precision:	S	
Survey date:	1986-05-21	Elevation: 3600 -
First observation:	1986	Slope/aspect:
Last observation:	1986-05-21	Size (acres): 34

Location:

CA. 0.5 AIR MILES NE OF BOBCAT CREEK, 2.6 AIR MILES ENE OF BIDDLE,
BADLANDS ALONG THE LITTLE POWDER RIVER.

Element occurrence data:

CA. 80-100 PLANTS, 3 SUBPOPULATIONS, ONLY 2 PLANTS SEEN ON BLM LAND;
LOWER SLOPES AROUND THE SITES ARE HEAVILY GRAZED, AND THERE IS
EVIDENCE OF LIVESTOCK ON HIGHER SLOPES; SEE GMF FOR BASE MAP.

General site description:

BARREN SLOPES AND RIDGES OF SILT-CLAY SOIL; WITH ARTEMISIA TRIDENTATA,
ATRIPLEX CONFERTIFOLIA, ALLIUM TEXTILE, PENSTEMON, ZIGADENUS.

Land owner/manager:

PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
BLM: MILES CITY DISTRICT, POWDER RIVER RESOURCE AREA

Comments:

VOUCHER NOT TAKEN, PHOTOGRAPHS AVAILABLE; COLLECTION MADE AT ADJACENT
BIDDLE SCHOOL SECTION SITE.

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.009
Element occurrence type:

Survey site name: WILD BILL CREEK
EO rank: B
EO rank comments: MODERATE-SIZED POPULATION, LIGHT GRAZING IMPACTS.
County: POWDER RIVER

USGS quadrangle: WILD BILL CREEK

Township: Range: Section: TRS comments:
009S 051E 12 SW4

Precision: S
Survey date: 1986-05-21 Elevation: 3590 -
First observation: 1986 Slope/aspect:
Last observation: 1986-05-21 Size (acres): 5

Location:
BUTTE CREEK RD., 1.4 MILES WEST OF WILD BILL CREEK, 1.9 MILES WEST OF
STATE HWY 59; 0.1-0.25 AIR MILES NORTH OF THE ROAD.

Element occurrence data:
CA. 200-225 PLANTS, 1 POPULATION; SOME EVIDENCE OF LIGHT GRAZING.

General site description:
IN SILT-CLAY SOIL ALONG A LOW RIDGELINE; WITH ARTEMISIA TRIDENTATA,
AGROPYRON SPICATUM, POA SECUNDA, MUSINEON DIVARICATUM, ASTRAGALUS
SPATULATUS.

Land owner/manager:
BLM: MILES CITY DISTRICT, POWDER RIVER RESOURCE AREA

Comments:

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SHELLY, J. S. (1062). 1986. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.010
Element occurrence type:

Survey site name: STAG ROCK KNOLLS
EO rank: B
EO rank comments: GRAZED SITE CLOSE TO ROAD.

County: POWDER RIVER

USGS quadrangle: FORT HOWES

Township: Range: Section: TRS comments:
006S 045E 12 SW4; 13 NW4

Precision: S
Survey date: 1988-05-14 Elevation: 3450 -
First observation: 1988 Slope/aspect:
Last observation: 1988-05-14 Size (acres): 15

Location:
CUSTER NATIONAL FOREST, 1.5 MILES NORTH OF FORT HOWES RANGER STATION,
0.5 MILE WEST OF OTTER CREEK ROAD, NW OF STAG ROCK.

Element occurrence data:
CA. 1250 PLANTS, IN 4 SUBPOPULATIONS; FLOWERING.

General site description:
ERODING HILLSIDES AND KNOLLS, IN SILTY-CLAY DERIVED SOILS; OPEN SOIL
BENEATH PINUS PONDEROSA, JUNIPERUS SCOPULORUM, WITH ARTEMISIA
TRIDENTATA.

Land owner/manager:
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SCHASSBERGER, L. A. (176, 177, 180). 1988. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.011
Element occurrence type:

Survey site name: FORT HOWES RIDGE
EO rank: A
EO rank comments: GOOD POPULATION SIZE, PROTECTED

County: POWDER RIVER

USGS quadrangle: FORT HOWES

Township: Range: Section: TRS comments:
006S 045E 24 NE4

Precision: S
Survey date: 1988-05-14 Elevation: 3550 -
First observation: 1988-05-14 Slope/aspect:
Last observation: 1995-06-14 Size (acres): 4

Location:
CUSTER NATIONAL FOREST, ON HILLS AND CLIFF 0.25 MILES NW OF FORT HOWES
RANGER STATION.

Element occurrence data:
1995: 50 PLANTS, 90% IN FLOWER. 1988: CA. 600 PLANTS, IN 2
SUBPOPULATIONS; MOST IN FLOWER.

General site description:
ERODING HILLSIDE AND ABOVE SILTSTONE CLIFF WITH ARTEMISIA TRIDENTATA,
GUTIERREZIA SAROTHRÆ, CRYPTANTHA CELOSIODES, YUCCA GLAUCA.

Land owner/manager:
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:
SEE GMF FOR BASE MAP SHOWING SUBPOPULATIONS. SURVEYED BY H. MARRIOTT
IN 1995.

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SCHASSBERGER, L. A. (178). 1988. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.012
Element occurrence type:

Survey site name: TAYLOR BUTTE RIM
EO rank: A
EO rank comments: EXCELLENT SITE NATURALLY PROTECTED BY CLIFFLINE.

County: POWDER RIVER

USGS quadrangle: FORT HOWES

Township: Range: Section: TRS comments:
006S 046E 30 E2

Precision: S
Survey date: 1988-05-14 Elevation: 3400 -
First observation: 1988 Slope/aspect:
Last observation: 1988-05-14 Size (acres): 35

Location:
CUSTER NATIONAL FOREST, 0.5 MILES EAST OF OTTER CREEK ROAD ON SOUTH
FORK OF TAYLOR CREEK ROAD, CLIFFLINE TO EAST.

Element occurrence data:
CA. 2000 INDIVIDUALS SCATTERED ABOVE AND BELOW CLIFF LINE.

General site description:
ABOVE AND BELOW ERODING CLIFFLINE; SILTY CLAY; OPEN PINUS PONDEROSA,
JUNIPERUS SCOPULORUM WITH ARTEMISIA TRIDENTATA AND HAPLOPAPPUS
ARMERIOIDES.

Land owner/manager:
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:
MONTU; SEE GMF FOR BASE MAP SHOWING SUBPOPULATIONS.

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SCHASSBERGER, L. A. (179). 1988. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.013
Element occurrence type:

Survey site name: STAG ROCK CLIFF TOPS
EO rank: BC

EO rank comments: GOOD-SIZED POPULATION; NOT FLOWERING EXTENSIVELY.

County: POWDER RIVER

USGS quadrangle: FORT HOWES

Township:	Range:	Section:	TRS comments:
006S	045E	13	NE4
006S	046E	18	SW4

Precision:	S	
Survey date:	1988-05-19	Elevation: 3340 -
First observation:	1988	Slope/aspect:
Last observation:	1988-05-19	Size (acres): 45

Location:

CUSTER NATIONAL FOREST, 1.5 MILES NORTH OF FORT HOWES RANGER STATION,
0.25 MILE WEST OF OTTER CREEK ROAD, SW OF STAG ROCK.

Element occurrence data:

CA. 1750 PLANTS IN 3 SUBPOPULATIONS SCATTERED ALONG CLIFF- LINE; LESS
THAN 10 PERCENT IN FLOWER; LARGE MATS.

General site description:

ERODING CLIFF-LINES IN SILTY-CLAY SOILS, BENEATH MODERATE COVER OF
PINUS PONDEROSA AND JUNIPERUS SCOPULORUM, WITH CALAMOVILFA LONGIFOLIA
AND ANDROPOGON SCOPARIUS.

Land owner/manager:

CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:

SEE GMF FOR BASE MAP SHOWING SUBPOPULATIONS.

Information source:

SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SCHASSBERGER, L. A. (190, 191). 1988. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.014
Element occurrence type:

Survey site name: LYON CREEK RIDGE
EO rank: C

EO rank comments: NO APPARENT REPRODUCTION; GRAZING ON ALLOTMENT.

County: POWDER RIVER

USGS quadrangle: FORT HOWES
GOODSPEED BUTTE

Township:	Range:	Section:	TRS comments:
005S	046E	36	SW4; 35 SE4
006S	046E	5	N2

Precision:	S	
Survey date:	1988-05-16	Elevation: 3400 -
First observation:	1988	Slope/aspect:
Last observation:	1988-05-19	Size (acres): 40

Location:
CUSTER NATIONAL FOREST, 3.5 MILES NORTH OF FORT HOWES, 1 MILE EAST OF
OTTER CREEK, JUST NORTH OF LYON CREEK ROAD.

Element occurrence data:
CA. 2,400 PLANTS IN 4 SUBPOPULATIONS; LARGE MATTED POPULATIONS, NOT
FLOWERING. LIGHT GRAZING IN SURROUNDING AREAS.

General site description:
ERODING CLIFF-LINES & RIDGES, IN SILTY-CLAY SOILS, BENEATH PINUS
PONDEROSA, JUNIPERUS SCOPULORUM; WITH ANDROPOGON SCOPARIUS, FESTUCA
IDAHOENSIS, SENECEO CANUS.

Land owner/manager:
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:
VEGETATIVE MATERIAL ONLY; CONFORMATION IN FLOWER WARRANTED.

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SCHASSBERGER, L. A. (184). 1988. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.015
Element occurrence type:

Survey site name: KING CREEK WELL
EO rank: A
EO rank comments: EXCELLENT SITE

County: ROSEBUD

USGS quadrangle: GREEN CREEK

Township: Range: Section: TRS comments:
004S 044E 22 NW4

Precision: S
Survey date: 1988-05-16 Elevation: 3350 -
First observation: 1988 Slope/aspect:
Last observation: 1988-05-16 Size (acres): 2

Location:
CUSTER NATIONAL FOREST, 5 MILES SOUTH OF ASHLAND, 2.5 MILES SE OF
TONGUE RIVER ROAD ON SOUTH SIDE OF KING CREEK ROAD; WITHIN
WALK-IN/RIDE-IN RESTRICTED ZONE.

Element occurrence data:
CA. 2,000 PLANTS, FLOWERING PROLIFICALLY; ACTIVE POLLINATION OBSERVED.

General site description:
ERODING HILLSIDE OF SILTY-CLAY SOIL, WITH ARTEMISIA TRIDENTATA,
ATRIPLEX CONFERTIFOLIA, YUCCA GLAUCA, COMANDRA UMBELLATA.

Land owner/manager:
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SCHASSBERGER, L. A. (185). 1988. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.016
Element occurrence type:

Survey site name: STAG ROCK RESERVOIR RIDGES
EO rank: B
EO rank comments: TOO CLOSE TO RESERVOIR FOR CATTLE.

County: POWDER RIVER

USGS quadrangle: FORT HOWES

Township: Range: Section: TRS comments:
006S 045E 12 NE4; 1 SE4

Precision: S
Survey date: 1988-05-18 Elevation: 3420 -
First observation: 1988 Slope/aspect:
Last observation: 1988-05-18 Size (acres): 35

Location:
CUSTER NATIONAL FOREST, 2.5 MILES NORTH OF FORT HOWES RANGER STATION,
0.5 MILE WEST OF OTTER CREEK ROAD, 0.25 MILE NORTH OF STAG ROCK
RESERVOIR.

Element occurrence data:
CA. 950 PLANTS IN 3 SUBPOPULATIONS; ABOUT 75 PERCENT OF POPULATION IN
FLOWER.

General site description:
ERODING BARREN KNOLLS AND RIDGES IN SILTY-CLAY SOIL, WITH PHLOX
HOODII, FESTUCA IDAHOENSIS, HAPLOPAPPUS ARMERIOIDES, AND GUTIERREZIA
SAROTHRAE.

Land owner/manager:
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:
SEE GMF FOR BASE MAP SHOWING SUBPOPULATIONS.

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SCHASSBERGER, L. A. (187, 188, 189). 1988. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.017
Element occurrence type:

Survey site name: NW BUTTRESS, TAYLOR BUTTE
EO rank: C
EO rank comments: POOR REPRODUCTION

County: POWDER RIVER

USGS quadrangle: FORT HOWES

Township: Range: Section: TRS comments:
006S 046E 20 SW4; 19 SE4

Precision: S
Survey date: 1988-05-19 Elevation: 3360 -
First observation: 1988 Slope/aspect:
Last observation: 1988-05-19 Size (acres): 30

Location:
CA. 0.75 MILE SE OF FORT HOWES RANGER STATION, ALONG CLIFFS.

Element occurrence data:
CA. 3,050 PLANTS SCATTERED ALONG RIM ROCK. LARGE MATS. NOT FLOWERING.

General site description:
ERODING CLIFF IN SILTY CLAY SOILS; ONE SUBPOPULATION IN THE MIDDLE OF
BURN AREA (1966).

Land owner/manager:
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:
VEGETATIVE MATERIAL ONLY; CONFORMATION IN FLOWER WARRANTED.

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.018
Element occurrence type:

Survey site name: GATE CREEK
EO rank: C
EO rank comments: HEAVILY GRAZED AREA NEAR ROAD.

County: ROSEBUD

USGS quadrangle: BIRNEY DAY SCHOOL

Township: Range: Section: TRS comments:
004S 043E 34 SE4; 35 SW4

Precision: S
Survey date: 1988-05-20 Elevation: 3140 -
First observation: 1988 Slope/aspect:
Last observation: 1988-05-20 Size (acres): 1

Location:
0.3 MILES SOUTH OF GATE CREEK ON THE EAST SIDE OF BIRNEY CREEK ROAD.

Element occurrence data:
CA. 200-250 PLANTS, FLOWERING; EVIDENCE OF LIVESTOCK GRAZING.

General site description:
ERODING KNOLL; WITH ARTEMISIA TRIDENTATA, ATRIPLEX CONFERTIFOLIA AND
ANDROPOGON SCOPARIUS.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
BLM: MILES CITY DISTRICT, POWDER RIVER RESOURCE AREA

Comments:

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SCHASSBERGER, L. A. (196). 1988. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.019
Element occurrence type:

Survey site name: O'DELL CREEK BUTTRESS
EO rank: B
EO rank comments: GRAZING

County: ROSEBUD

USGS quadrangle: GREEN CREEK

Township: Range: Section: TRS comments:
004S 044E 30

Precision: S
Survey date: 1988-05-20 Elevation: 3360 -
First observation: 1988 Slope/aspect:
Last observation: 1988-05-20 Size (acres): 1

Location:
10 MILES SE OF ASHLAND; CLIFFLINE NE OF INTERSECTION WITH O'DELL CREEK
ROAD.

Element occurrence data:
CA. 200 PLANTS SCATTERED ATOP CLIFF AND BELOW; 25% FLOWER- ING.

General site description:
IN SILTY-CLAY SOILS, WITH ARTEMISIA TRIDENTATA, FESTUCA IDAHOENSIS,
AND GUTIERREZIA SAROTHRAE.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SCHASSBERGER, L. S. (197). 1988. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.020
Element occurrence type:

Survey site name: SHEEP WELL ROAD
EO rank: C
EO rank comments: NO CURRENT REPRODUCTION; GRAZED SITE

County: POWDER RIVER

USGS quadrangle: COLEMAN DRAW

Township: Range: Section: TRS comments:
003S 046E 20 NE4

Precision: S
Survey date: 1985-05-20 Elevation: 3310 -
First observation: 1988 Slope/aspect:
Last observation: 1988-05-20 Size (acres): 1

Location:
CUSTER NATIONAL FOREST, CA. 10 MILES EAST OF ASHLAND (HIGHWAY 212),
0.5 MILES SOUTH OF HIGHWAY, JUST WEST OF DIRT ROAD.

Element occurrence data:
CA. 200-250 PLANTS SCATTERED ALONG A LOW EMBANKMENT; NOT FLOWERING.

General site description:
LOW ERODING HILLSIDE IN SILTY-CLAY SOILS, WITH CHRYSOTHAMNUS
NAUSEOSUS, ANDROPOGON SCOPARIUS AND GUTIERREZIA SAROTHRAE.

Land owner/manager:
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:
VEGETATIVE MATERIAL ONLY; CONFIRMATION IN FLOWER WARRANTED. OBSERVED
BY SCHASSBERGER. NOT REVISITED BY SCHMOLLER.

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.021
Element occurrence type:

Survey site name: SCOLES RANCH ROAD
EO rank: C
EO rank comments: SMALL POCKETS OF GOOD HABITAT.

County: POWDER RIVER

USGS quadrangle: BIDDLE
BELLE CREEK SW

Township:	Range:	Section:	TRS comments:
008S	053E	32	SW4SW4; 31 E2
009S	053E	5	N2

Precision:	S	
Survey date:	1989-05-14	Elevation: 3700 -
First observation:	1988	Slope/aspect: 0-3% / NW
Last observation:	1989-05-14	Size (acres): 5

Location:
CA. 3.75 MILES EAST OF BIDDLE, CA. 1.5 MILES NORTH OF RANCH CREEK.

Element occurrence data:
LOCALLY COMMON. MANY PLANTS DEAD IN 1989 (PROBABLY DUE TO DROUGHT).

General site description:
ON SILTY-CLAY "GUMBO" KNOLLS AND SLOPES, WITH GUTIERREZIA SAROTHRAE,
ARTEMISIA FRIGIDA AND CHRYSOTHAMNUS NAUSEOSUS.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SCHASSBERGER, L. A. (255). 1989. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.022
Element occurrence type:

Survey site name: SOUTH FORK WRIGHT CREEK 1
EO rank: C
EO rank comments: SMALL POPULATIONS. HABITAT NOT EXTENSIVE.

County: POWDER RIVER

USGS quadrangle: BELLE CREEK SW

Township: Range: Section: TRS comments:
009S 053E 02 S2

Precision: S
Survey date: 1989-05-15 Elevation: 3760 -
First observation: 1989 Slope/aspect: 0-8% / ENE
Last observation: 1989-05-15 Size (acres): 2

Location:
CA. 6 MILES EAST OF BIDDLE, MT AND CA. 2.1 MILES NORTH OF RANCH CREEK.

Element occurrence data:
LOCALLY COMMON.

General site description:
SILTY-CLAY "GUMBO" KNOLLS AND KNOBS, WITH ARTEMISIA FRIGIDA,
ASTRAGALUS SPATULATUS AND A. GILVIFLORUS.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
MANY PLANTS DEAD DUE TO DROUGHT (1989).

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.023
Element occurrence type:

Survey site name: SOUTH FORK WRIGHT CREEK 2
EO rank: C
EO rank comments: SMALL POPULATION, HABITAT NOT EXTENSIVE.

County: POWDER RIVER

USGS quadrangle: BELLE CREEK SW

Township: Range: Section: TRS comments:
009S 053E 12 NE4

Precision: S
Survey date: 1989-05-15 Elevation: 4000 -
First observation: 1988 Slope/aspect: 0-8% / ENE
Last observation: 1989-05-15 Size (acres): 2

Location:
CA. 7 MILES EAST OF BIDDLE; CA. 1.5 MILES NORTH OF RANCH CREEK.

Element occurrence data:
LOCALLY COMMON. MANY PLANTS DEAD IN 1989 (PROBABLY DUE TO DROUGHT).

General site description:
ON SILTY-CLAY "GUMBO" KNOLLS AND SLOPES, WITH ARTEMISIA FRIGIDA,
ASTRAGALUS SPATULATUS AND A. GILVIFLORUS.

Land owner/manager:
BLM: MILES CITY DISTRICT, POWDER RIVER RESOURCE AREA

Comments:

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.024
Element occurrence type:

Survey site name: RANCH CREEK 1
EO rank:
EO rank comments:

County: POWDER RIVER

USGS quadrangle: BIDDLE

Township: Range: Section: TRS comments:
009S 052E 12 E2; 13 NE4
009S 053E 7 SW4NW4; 18 NW4SW4

Precision: S
Survey date: 1989-05-15 Elevation: 3600 -
First observation: 1989 Slope/aspect: 0-8% / NE,NW,SW
Last observation: 1989-05-15 Size (acres): 40

Location:
FROM BIDDLE, GO CA. 3.5 MILES SE ON RANCH CREEK ROAD; SITE IS CA. 0.5
MILE SOUTH OF ROAD.

Element occurrence data:
LOCALLY COMMON. MANY DEAD PLANTS OBSERVED IN 1989 (PROBABLY DUE TO
DROUGHT)

General site description:
ON SILTY-CLAY "GUMBO" KNOLLS AND SLOPES WITH PHLOX HOODII, LOMATIUM
COUS AND ARTEMISIA TRIDENTATA.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
BLM: MILES CITY DISTRICT, POWDER RIVER RESOURCE AREA

Comments:
BOMBUS SPP. WERE OBSERVED POLLINATING PLANTS.

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SCHASSBERGER, L. A. (256). 1989. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.025
Element occurrence type:

Survey site name: SOUTH BIDDLE
EO rank: C
EO rank comments: SMALL POPULATIONS, CLOSE TO HIGHWAY.

County: POWDER RIVER

USGS quadrangle: BIDDLE

Township: Range: Section: TRS comments:
009S 052E 4 NW4
008S 052E 33 SE4

Precision: S
Survey date: 1989-05-16 Elevation: 3500 -
First observation: 1989 Slope/aspect: 0-8% / WEST
Last observation: 1989-05-16 Size (acres): 5

Location:
CA. 1.5 MILES SOUTHWEST OF BIDDLE, EAST AND WEST OF HIGHWAY 59.

Element occurrence data:
LOCALLY COMMON, MANY PLANTS DEAD, 1989. (PROBABLY DUE TO DROUGHT.)

General site description:
SILTY-CLAY "GUMBO" KNOLLS AND KNOBS, WITH PHLOX HOODII, ARTEMISIA
TRIDENTATA, AND CHRYSOTHAMNUS NAUSEOSUS.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
SEE GMF BASEMAP FOR SUBPOPULATIONS.

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: SCHASSBERGER, L. A. (258). 1989. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.026
Element occurrence type:

Survey site name: BELL CREEK
EO rank: B
EO rank comments: AREA NOT COMPLETELY SURVEYED; POTENTIALLY LARGE
SITE.

County: POWDER RIVER

USGS quadrangle: PINE CREEK

Township: Range: Section: TRS comments:
007S 053E 30 W2

Precision: S
Survey date: 1989-08-18 Elevation: 3580 -
First observation: 1989 Slope/aspect: 0-35% / NW
Last observation: 1989-08-18 Size (acres): 5

Location:
CA. 6.5 MILES NNE OF BIDDLE, CA. 2.5 MILES EAST OF HIGHWAY 59, AND CA.
1.2 MILES NORTH OF THE BELLE CREEK ROAD.

Element occurrence data:
SMALL POPULATION, MANY PLANTS DEAD IN 1989. (PROBABLY DUE TO DROUGHT)

General site description:
SILTY-CLAY KNOBS AND KNOLLS, WITH CHRYSOTHAMNUS NAUSEOSUS, ARTEMISIA
TRIDENTATA, AND ASTRAGALUS SPATULATUS. AREA IS HEAVILY GRAZED.

Land owner/manager:
BLM: MILES CITY DISTRICT, POWDER RIVER RESOURCE AREA

Comments:

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.027
Element occurrence type:

Survey site name: COLSTRIP SOUTHEAST
EO rank:
EO rank comments: NONE.

County: ROSEBUD

USGS quadrangle: COLSTRIP SE

Township: Range: Section: TRS comments:
001N 041E 12 NW4SW4

Precision: S
Survey date: Elevation: 3359 -
First observation: 1976 Slope/aspect: 10% / EAST
Last observation: 1976-05-28 Size (acres): 0

Location:
CA. 5.5 KM. SOUTHEAST OF COLSTRIP, ABOVE BORROW PIT, ALONG WEST SIDE
HWY. 39.

Element occurrence data:
NONE.

General site description:
ON SANDSTONE HILLSLOPE (ENTISOL), WITH PINUS PONDEROSA, ANDROPOGON
SCOPARIUS, ORYZOPSIS HYMENOIDES AND BROMUS TECTORUM.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
SPECIMEN DATA READS: SE4, SECTION 12. MAP INFORMATION PLACES IT IN
SW4. ALSO SECONDARY ROAD 315 IS NOW HWY. 39.

Information source: SCHASSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: PLANTENBERG, P. L. (V/28/76 #1). 1976. MONT.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.028
Element occurrence type:

Survey site name: SPRING CREEK
EO rank:
EO rank comments:

County: BIG HORN
USGS quadrangle: PEARL SCHOOL
HALF MOON HILL

Township: Range: Section: TRS comments:
008S 039E 23 NW4SE4; 15 SW4; 16 SE4; 22 NE4

Precision: S
Survey date: Elevation: 3950 -
First observation: 1989 Slope/aspect: 5-45% / NORTHEAST TO NORTHWEST
Last observation: 1991-06-05 Size (acres): 4

Location:
CA. 8 MILES NNW OF DECKER. SPRING CREEK DRAINAGE (SPRING CREEK MINE),
CA. 2 MILES SOUTHWEST OF HWY. 314.

Element occurrence data:
1991: THREE ADDITIONAL SUBPOPULATIONS LOCATED THIS YEAR, WITH > 50% IN
FLOWER AND FROM 20-1000 INDIVIDUALS IN EACH SUBPOPULATION. 1989: CA.
12 PLANTS, RANGING IN SIZE FROM 1-25 CM. IN DIAMETER, MOST OLDER
PLANTS BEARING FRUIT.

General site description:
ON FINE, SANDY CLAY LOAM SOIL, ABOVE A SANDSTONE OUTCROP, WITH
ARTEMISIA TRIDENTATA, AGROPYRON SPICATUM, PHLOX HOODII, ASTRAGALUS
GILVIFLORUS, OXYTROPIS SERICEA, AND ERIOGUNUM SPP.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
SURVEYED BY R. PRODGERS, K. FENTON, F. AMENDOLA AND G. HALLSTEN IN
1991. FIVE SITES TOTAL, CA. 1-2 MILES APART.

Information source: SCHAESSBERGER, L. A. 1990. REPORT ON THE
CONSERVATION STATUS OF ASTRAGALUS BARRII, A
CANDIDATE THREATENED SPECIES. UNPUBLISHED REPORT
TO THE U.S. FISH & WILDLIFE SERVICE, DENVER.
MONTANA NATURAL HERITAGE PROGRAM, HELENA, MT. 85
PP.

Specimens: HALLSTEN, G. P. (2617). 1989. (PERSONAL COLLECTION).
FENTON, K. (S.N.). 1991. MONT.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.029
Element occurrence type:

Survey site name: SPRING CREEK
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: HALF MOON HILL

Township: Range: Section: TRS comments:
008S 039E 13 N2; 14 NE4

Precision: S
Survey date: 1991-06-05 Elevation: 3920 -
First observation: 1989 Slope/aspect: 5-45% / NORTHEAST TO NORTHWEST
Last observation: 1991-06-05 Size (acres): 2

Location:
GO 14.7 MILES NORTH OF THE MT/WY BORDER ON STATE ROAD #314; SITE IS
0.75 MILE SOUTHWEST OF ROAD.

Element occurrence data:
FROM 20 TO 1000 INDIVIDUALS IN EACH SUBPOPULATION, WITH >50% IN
FLOWER; SEED PRODUCTION, BUT NO SEEDLINGS OBSERVED.

General site description:
SUBPOPULATIONS GROWING ON BARE, DRY, FINE SOIL TO BARE SHALE, USUALLY
ON THE MIDSLOPE TO CREST OF THE OUTCROP. ASSOCIATED SPECIES ARE
ASTRAGALUS GILVIFLORUS, OXYTROPIS SERICEA, AND ERIOGONUM SPP.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

Information source: ROE, LISA SCHAASBERGER. [BOTANIST.] 531 SPENCER,
HELENA, MONTANA 59601.

Specimens: FENTON, K. (S.N.). 1991. MONT.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.030
Element occurrence type:

Survey site name: STELLAR CREEK ROAD
EO rank:
EO rank comments:

County: ROSEBUD

USGS quadrangle: FLAT BOTTOM COULEE NW

Township: Range: Section: TRS comments:
011N 038E 26

Precision: S
Survey date: Elevation: 2950 -
First observation: 1992-07-13 Slope/aspect: 0-30% / NW, W
Last observation: 1992-07-13 Size (acres):

Location:
FROM VANANDA ON US HWY 12, GO NORTH CA. 23 MILES ON COUNTY ROAD TO
STELLAR CREEK ROAD, THEN EAST 2.5 MILES.

Element occurrence data:
3 SMALL AREAS WITH CA. 30 PLANTS TOTAL; SEVERAL PLANTS FLOWERING.

General site description:
SPARSE VEGETATION (80% BARE GROUND) ON ROCKY, WINDBLOWN OUTCROPS, WITH
ARTEMISIA TRIDENTATA, AGROPYRON SPICATUM, ERIOGONUM PAUCIFLORUM,
LESQUERELLA ALPINE.

Land owner/manager:
BLM: MILES CITY DISTRICT, POWDER RIVER RESOURCE AREA

Comments:
2 WEEKS OF RAINS AFTER 3 MONTHS OF DRY CONDITIONS MAY HAVE PROMPTED
LATE FLOWERING. MINING ADIT ON WEST SIDE OF HILL.

Information source: ROE, LISA SCHASSBERGER. [BOTANIST.] 531 SPENCER,
HELENA, MONTANA 59601.

Specimens: ROE, L. S. (492). 1992. MONT.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.031
Element occurrence type:

Survey site name: OTTER
EO rank:
EO rank comments:

County: POWDER RIVER

USGS quadrangle: OTTER

Township: Range: Section: TRS comments:
007S 045E 26 NW4NW4

Precision: S
Survey date: Elevation: 3500 - 3640
First observation: 1995-05-24 Slope/aspect: 0-15% / E-NE
Last observation: 1995-05-24 Size (acres): 2

Location:

NEXT TO FS RD 501, CA. 0.25 MILE EAST OF OTTER POST OFFICE; CA. 1.5
AIR MILES SOUTHWEST OF CONFLUENCE OF BEAR AND OTTER CREEKS. FROM HWY
212 CA 4 MILES EAST OF ASHLAND, DRIVE SOUTH ON OTTER CREEK ROAD. CA. 6
MILES SOUTH OF FORT HOWES WORK CENTER, TURN RIGHT AND GO UP BEAR
CREEK.

Element occurrence data:
200-250 PLANTS, 90% IN FLOWER, 10% VEGETATIVE.

General site description:

DRY, OPEN LOWER-TO-MIDSLOPE BREAKLANDS. SANDSTONE PARENT MATERIAL.
ASSOCIATED SPECIES: PHLOX HOODII, COMMANDRA UMBELLATA, ASTRAGALUS
GILVIFLORUS, HYMENOPAPPUS POLYCEPHALUS.

Land owner/manager:

CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

OBSERVED BY H. MARRIOTT. POPULATION VERY CLOSE TO ROAD.

Information source: HEIDEL, B. L. AND H. MARRIOTT. 1996. SENSITIVE
PLANT SPECIES SURVEY OF THE ASHLAND DISTRICT,
CUSTER NATIONAL FOREST, POWDER RIVER AND ROSEBUD
COUNTIES, MT. UNPUBLISHED REPORT TO THE U.S.
FOREST SERVICE. MONTANA NATURAL HERITAGE PROGRAM.
94 PP. PLUS APPENDICES.

Specimens: MARRIOTT, H. (11498). 1995. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.032
Element occurrence type:

Survey site name: NORTH FORK BLOOM CREEK
EO rank:
EO rank comments:

County: POWDER RIVER

USGS quadrangle: BLOOM CREEK

Township: Range: Section: TRS comments:
007S 048E 10 SW4NW4

Precision: S
Survey date: Elevation: 3800 -
First observation: 1995-05-30 Slope/aspect: 0-40% / SOUTH, WEST
Last observation: 1995-05-30 Size (acres): 1

Location:
RIDGE WEST OF NORTH FORK BLOOM CREEK CA. 0.5 MILE NORTH OF CONFLUENCE
WITH SOUTH FORK; ACCESS VIA BLOOM CREEK ROAD (FROM POWDER RIVER ROAD).

Element occurrence data:
40-50 PLANTS, ALL VEGETATIVE, VERY LOCALIZED.

General site description:
OPEN, DRY UPPERSLOPE. SANDY-SILTY BREAKLANDS WITH ROCK FRAGMENTS NEXT
TO SANDSTONE OUTCROP. SANDSTONE PARENT MATERIAL. DOMINATED BY
PONDEROSA PINE AND ROCKY MOUNTAIN JUNIPER. CAREX FILIFOLIA ALSO
PRESENT.

Land owner/manager:
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:
VEGETATIVE MATERIAL ONLY; CONFORMATION IN FLOWER WARRANTED. OBSERVED
BY H. MARRIOTT. ADDITIONAL PLANTS MAY BE PRESENT ON SIMILAR MICROSITES
JUST BELOW RIMS OF SANDSTONE-CAPPED RIDGETOPS (NOT ALL WERE SURVEYED).

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.033
Element occurrence type:

Survey site name: DROP TUBE RESERVOIR
EO rank:
EO rank comments:

County: POWDER RIVER

USGS quadrangle: KING MOUNTAIN

Township: Range: Section: TRS comments:
005S 045E 21 N2

Precision: S
Survey date: Elevation: 3400 - 3550
First observation: 1995-06-14 Slope/aspect: 0-45% / ALL
Last observation: 1995-06-14 Size (acres): 5

Location:
SANDSTONE CLIFFS ON NORTH SIDE OF PAGET CREEK JUST WEST OF DROP TUBE
RESERVOIR. TAKE OTTER CREEK ROAD SOUTH FROM HWY 212 CA. 15 MILES TO
PAGET ROAD; TURN RIGHT. PARK NEAR RESERVOIR AND HIKE TO SITE.

Element occurrence data:
>400 PLANTS, VEGETATIVE.

General site description:
DRY CREST AND UPPEXSLOPE OFTEN IN SANDSTONE OUTCROPS; OPEN TO PARTIAL
SHADE. SANDSTONE PARENT MATERIAL. ASSOCIATED SPECIES: ANDROPOGON
SCOPARIUS, AGROPYRON SPICATUM, ARTEMISIA TRIDENTATA, A. FRIGIDA,
KOELERIA MACRANTHA, YUCCA GLAUCA.

Land owner/manager:
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:
OBSERVED BY H. MARRIOTT. NOT ALL SUITABLE HABITAT IN AREA SURVEYED.

Information source: HEIDEL, B. L. AND H. MARRIOTT. 1996. SENSITIVE
PLANT SPECIES SURVEY OF THE ASHLAND DISTRICT,
CUSTER NATIONAL FOREST, POWDER RIVER AND ROSEBUD
COUNTIES, MT. UNPUBLISHED REPORT TO THE U.S.
FOREST SERVICE. MONTANA NATURAL HERITAGE PROGRAM.
94 PP. PLUS APPENDICES.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.034
Element occurrence type:

Survey site name: BLOOM CREEK
EO rank:
EO rank comments:

County: POWDER RIVER

USGS quadrangle: BLOOM CREEK

Township: Range: Section: TRS comments:
007S 048E 23 SE4NE4, NE4SE4, CENTER; 15 SE4; 14 SW4

Precision: S
Survey date: Elevation: 3600 - 3700
First observation: 1995-05-25 Slope/aspect: 0-30+% / ALL
Last observation: 1995-05-29 Size (acres): 5

Location:

TAKE POWDER RIVER ROAD TO MOORHEAD FROM BROADUS. AFTER 20-25 MILES,
TURN UP BLOOM CREEK (ROAD SIGN READS "TO FORT HOWES"). PLANTS ARE JUST
INSIDE FOREST BOUNDARY ON LOWER RIDGES ON SOUTHWEST SIDE OF DRAINAGE.

Element occurrence data:

3 SUBPOPULATIONS WITH 400, 30, AND 13 PLANTS; ALL VEGETATIVE.

General site description:

OPEN TO PARTIALLY SHADED, DRY BREAKLANDS ASSOCIATED WITH SANDSTONE
OUTCROPS. SANDY-SILTY SOIL, OFTEN WITH MANY ROCK FRAGMENTS. LOTS OF
PINE DUFF IN SOME AREAS. DOMINATED BY PINUS PONDEROSA, JUNIPERUS
SCOPULORUM. OTHER ASSOCIATED SPECIES: CAREX FILIFOLIA, ANDROPOGON
SCOPARIUS, ARISTIDA LONGISETA, BOUTELOUA GRACILIS, YUCCA GLAUCA,
GUTIERREZIA SAROTHRAE.

Land owner/manager:

CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:

VEGETATIVE MATERIAL ONLY; CONFORMATION IN FLOWER WARRANTED. OBSERVED
BY H. MARRIOTT. NATURAL EROSION ON STEEPER, SPARSELY-VEGETATED SLOPES
PRODUCES PEDESTALLED PLANTS.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.035
Element occurrence type:

Survey site name: ROSEBUD CREEK
EO rank: C
EO rank comments: LIMITED SIZE.

County: ROSEBUD

USGS quadrangle: HAMMOND DRAW SW

Township: Range: Section: TRS comments:
001N 042E 13 W2

Precision: S
Survey date: 1996-06-10 Elevation: 3120 - 3160
First observation: 1996-06-10 Slope/aspect: 5-25% / NE
Last observation: 1996-06-10 Size (acres):

Location:
FROM COLSTRIP, TAKE HWY 315 CA. 3.5 MILES SOUTH TO SOUTH FORK COW
CREEK ROAD. GO EAST ON SOUTH FORK COW CREEK ROAD CA. 5 MILES. SITE IS
SOUTH OF ROAD, CA 0.5 MILE.

Element occurrence data:
OVER 50 PLANTS, 10% IN LATE FLOWERING, 90% VEGETATIVE; SCATTERD ON 3
SLOPE SEGMENTS.

General site description:
SHALE OUTCROP RIDGETOPS DOMINATED BY AGROPYRON SPICATUM, OVERLYING
SANDSTONE, ON SMALL ESCARPMENTS IN ROLLING PLAINS. ASSOCIATED SPECIES:
PINUS PONDEROSA, RHUS TRILOBATA, ARTEMISIA LONGIFOLIA, ASTRAGALUS
GILVIFLORUS.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
POPULATION LITTLE AFFECTED BY NEARBY LAND USE. UNSURVEYED RIDGETOP TO
NORTH BEING QUARRIED.

Information source: HEIDEL, BONNIE. [BOTANIST] MONTANA NATURAL
HERITAGE PROGRAM, 1515 EAST SIXTH AVENUE, P.O. BOX
201800, HELENA, MT 59620-1800. WORK: 406/444-3009.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.036
Element occurrence type:

Survey site name: WILBUR CREEK
EO rank:
EO rank comments:

County: POWDER RIVER

USGS quadrangle: HOME CREEK BUTTE

Township: Range: Section: TRS comments:
003S 046E 13 NW4

Precision: S
Survey date: Elevation: 3540 - 3600
First observation: 1995-06-25 Slope/aspect: 0-45% / ALL
Last observation: 1995-06-25 Size (acres): 2

Location:

FROM HWY 212 EAST OF ASHLAND, TAKE WILBUR CREEK ROAD (#775) NORTH CA.
0.5 MILE. SITE IS ON BADLANDS-TYPE BUTTES AND RIDGES ON LEFT BEFORE
DROPPING DOWN TO WILBUR CREEK.

Element occurrence data:

350-400 INDIVIDUALS IN 3 SUBPOPULATIONS; VEGETATIVE.

General site description:

DRY, OPEN LOWERSLOPE THROUGH CREST. ASSOCIATED WITH SOME
SPARSELY-VEGETATED SANDSTONE OUTCROPS AND IN SMALL ERODED GULLY AT
BASE OF RIDGE. SANDY-SILTY SOIL, WHITISH TO SANDY IN COLOR. ASSOCIATED
SPECIES: HAPLOPAPPUS ARMERIOIDES, AGROPYRON SPICATUM, COMMANDRA
UMBELLATA, HYMENOPAPPUS POLYCEPHALUS, CAREX FILIFOLIA.

Land owner/manager:

CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:

OBSERVED BY H. MARRIOTT. VEGETATIVE MATERIAL ONLY; CONFORMATION IN
FLOWER WARRANTED.

Information source:

SENSITIVE PLANT COORDINATOR, CUSTER NATIONAL
FOREST, 2602 FIRST AVENUE NORTH, P.O. BOX 2556,
BILLINGS, MT 59103.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.037
Element occurrence type:

Survey site name: HORSE CREEK / OTTER CREEK
EO rank:

EO rank comments:

County: POWDER RIVER

USGS quadrangle: FORT HOWES

Township:	Range:	Section:	TRS comments:
006S	045E	36	NE4SW4
007S	045E	1	NE4NE4

Precision: S

Survey date:

Elevation: 3400 - 3800

First observation: 1995-05-24

Slope/aspect: 0-30% / ALL

Last observation: 1995-05-24

Size (acres): 1

Location:

RIDGE NORTHWEST OF CONFLUENCE OF HORSE AND OTTER CREEKS. ONE SUBPOPULATION IS ON WEST SIDE OF KNOB BETWEEN OTTER CREEK ROAD AND ABANDONED ROAD (SOUTH OF OLD SCHOOL). OTHER SUBPOPULATION IS ALONG RIDGECREST CA. 0.8 AIR MILE TO THE NORTHWEST; THIS SITE IS JUST OFF OTTER CREEK ROAD CA. 2.5 MILES SOUTH OF FORT HOWES WORK CENTER.

Element occurrence data:

SOUTHERN SUBPOPULATION HAS CA. 50 PLANTS, >90 FLOWERING, REMAINDER VEGETATIVE. NORTHERN SUBPOPULATION HAS 150-200 PLANTS, CA. 75% FLOWERING, REMAINDER VEGETATIVE.

General site description:

PARTIALLY SHADED, DRY CREST AND UPPERSLOPE WITH SMALL SANDSTONE OUTCROPS. SANDY-SILTY BREAKLANDS. PINUS PONDEROSA AND JUNIPERUS SCOPULORUM WITH SPARSE UNDERSTORY DOMINATES SOUTHERN SUBPOPULATION. ASTRAGALUS BARRII DOMINATES NORTHERN SUBPOPULATION. ASSOCIATED SPECIES: COMMANDRA UMBELLATA, CAREX FILIFOLIA, ANDROPOGON SCOPARIUS.

Land owner/manager:

CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:

OBSERVED BY H. MARRIOTT. NATURAL EROSION ON STEEPER SLOPES HAS PRODUCED PEDESTALED PLANTS.

Information source:

HEIDEL, B. L. AND H. MARRIOTT. 1996. SENSITIVE PLANT SPECIES SURVEY OF THE ASHLAND DISTRICT, CUSTER NATIONAL FOREST, POWDER RIVER AND ROSEBUD COUNTIES, MT. UNPUBLISHED REPORT TO THE U.S. FOREST SERVICE. MONTANA NATURAL HERITAGE PROGRAM. 94 PP. PLUS APPENDICES.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS BARRII
Common Name: BARR'S MILKVETCH

Global rank: G3 Forest Service status: SENSITIVE
State rank: S3 Federal Status:

Element occurrence code: PDFAB0F150.038
Element occurrence type:

Survey site name: DAVIDSON COULEE
EO rank: CD
EO rank comments: LIMITED SUITABLE HABITAT.

County: ROSEBUD

USGS quadrangle: JIMTOWN

Township: Range: Section: TRS comments:
002S 041E 4 NE4

Precision: S
Survey date: 1996-06-11 Elevation: 3360 - 3400
First observation: 1996-06-11 Slope/aspect: 5-10% / NORTH
Last observation: 1996-06-11 Size (acres):

Location:
TAKE HWY CA. 1.5 MILES NORTH FROM JIMTOWN TO DAVIDSON COULEE ROAD.
TAKE DAVIDSON COULEE ROAD CA. 0.3 MILES. SITE IS ON SANDSTONE RIDGE
ABOVE DAVIDSON COULEE.

Element occurrence data:
6 PLANTS IN 2 SUBPOPULATIONS, IN VEGETATIVE CONDITION.

General site description:
MIDSLOPE OUTCROPS ON SANDSTONE AND OVERLYING SHALE ON NORTH ASPECT OF
EAST-WEST TRENDING RIDGES ABOVE ROSEBUD CREEK. IN PINUS
PONDEROSA/AGROPYRON SPICATUM HABITAT TYPE. ASSOCIATED SPECIES:
JUNIPERUS SCOPULORUM, ASTRAGALUS GILVIFLORUS, CAREX FILIFOLIA.

Land owner/manager:
BLM: MILES CITY DISTRICT, POWDER RIVER RESOURCE AREA

Comments:
SURROUNDING PRIVATE LANDS NOT SURVEYED.

Information source: HEIDEL, BONNIE. [BOTANIST] MONTANA NATURAL
HERITAGE PROGRAM, 1515 EAST SIXTH AVENUE, P.O. BOX
201800, HELENA, MT 59620-1800. WORK: 406/444-3009.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: ASTRAGALUS GEYERI
Common Name: GEYER'S MILKVETCH

Global rank: G3G4T3T4 Forest Service status:
State rank: S2 Federal Status:

Element occurrence code: PDFAB0F3M1.003
Element occurrence type:

Survey site name: MILES CITY
EO rank:
EO rank comments:

County: CUSTER

USGS quadrangle: UNMAPPABLE

Township: Range: Section: TRS comments:

Precision:	U	
Survey date:		Elevation: -
First observation:	1902	Slope/aspect:
Last observation:	1902-05-26	Size (acres):

Location:
MILES CITY (HISTORICAL RECORD).

Element occurrence data:
IN FLOWER.

General site description:
UNKNOWN.

Land owner/manager:

Comments:
ID UNSURE.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: BLANKENSHIP, J. W. (S.N.) 1902. MONT. (MRPP CARD).

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: CAREX GRAVIDA
Common Name: PREGNANT SEDGE

Global rank: G5T? Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PMCYP035G1.001
Element occurrence type:

Survey site name: LITTLE YOUNGS CREEK
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: BAR V RANCH

Township: Range: Section: TRS comments:
009S 038E 34 SW4SE4

Precision: S
Survey date: Elevation: 4000 -
First observation: Slope/aspect:
Last observation: Size (acres): 1

Location:
LITTLE YOUNGS CREEK, 5.1 AIR MILES SOUTHEAST OF THE BAR V RANCH.

Element occurrence data:
SCATTERED, IN THICK CLUMPS.

General site description:
ALONG CREEK BOTTOM, DECIDUOUS OVERSTORY; WITH FRAXINUS, ACER, POPULUS.

Land owner/manager:
CROW INDIAN RESERVATION

Comments:
EXACT LOCATION PROVIDED BY K. SCOW, WESTECH.

Information source: SCOW, KEN. WESTERN TECHNOLOGY AND ENGINEERING,
INC. (WESTECH). P.O. BOX 6045, 3005 AIRPORT ROAD,
HELENA, MT 59604. 406/442-0950.

Specimens: SCOW, K. (S.N.). WESTECH HERBARIUM.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: CAREX GRAVIDA
Common Name: PREGNANT SEDGE

Global rank: G5T? Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PMCYP035G1.002
Element occurrence type:

Survey site name: HAY CREEK
EO rank:
EO rank comments:

County: ROSEBUD

USGS quadrangle: POKER JIM BUTTE

Township: Range: Section: TRS comments:
005S 044E 33 SE4SW4

Precision: S
Survey date: Elevation: 3880 -
First observation: 1955-07-21 Slope/aspect: LEVEL
Last observation: 1995-07-06 Size (acres): 10

Location:
(CA. 8 MILES EAST OF BIRNEY) NEAR THE HEAD OF HAY CREEK AT FLETCHER RANCH.

Element occurrence data:
1995: UNCOMMON WITH 8 VIGOROUS CLUMPS IN NARROW BAND OF HABITAT. 1955:
IN FRUIT.

General site description:
MOIST SOIL IN BOTTOM OF STEEP-SIDED OLD GROWTH PINE DRAW. ASSOICATED SPECIES: CAREX SPRENGELII, POA PRATENSIS, PRUNUS VIRGINIANA, AND LOW AMOUNTS OF MEDICAGO LUPULINA FROM LIMITED CATTLE TRAILING.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:
SITE IS MOST INTACT OF MESIC HABITAT IN SW4. BURNED WITHIN LAST 20 YEARS.

Information source: HEIDEL, B. L. AND H. MARRIOTT. 1996. SENSITIVE PLANT SPECIES SURVEY OF THE ASHLAND DISTRICT, CUSTER NATIONAL FOREST, POWDER RIVER AND ROSEBUD COUNTIES, MT. UNPUBLISHED REPORT TO THE U.S. FOREST SERVICE. MONTANA NATURAL HERITAGE PROGRAM. 94 PP. PLUS APPENDICES.

Specimens: BENNETT, H. R. (S.N.). 1955. WTU.
HEIDEL, B. L. (1337). 1995. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: CAREX GRAVIDA
Common Name: PREGNANT SEDGE

Global rank: G5T? Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PMCYP035G1.003
Element occurrence type:

Survey site name: CORRAL CREEK
EO rank: D
EO rank comments: SMALL POPULATION, DISTURBED BY LIVESTOCK.

County: BIG HORN

USGS quadrangle: PASS CREEK EAST

Township: Range: Section: TRS comments:
009S 036E 10 NW4

Precision: S
Survey date: 1994-06-07 Elevation: 4280 -
First observation: 1994-06-07 Slope/aspect:
Last observation: 1994-06-07 Size (acres): 1

Location:

FROM ABERDEEN, EXIT ON I-90 AND GO EAST CA. 3 MILES TO FORK. GO LEFT
AND PROCEED DOWN CORRAL CREEK TO JUST PAST FIRST RESERVOIR.

Element occurrence data:
<50 PLANTS, IN FRUIT.

General site description:

PARTIALLY SHADED CREEK BOTTOM; MOIST, SILTY ALLUVIUM PARENT MATERIAL.
ASSOCIATED SPECIES: POPULUS TREMULOIDES, ACER NEGUNDO, CRATAEGUS
COLUMBIANA, CAREX SPRENGELLII, POA PRATENSIS, ROSA WOODSII, VIOLA
CANADENSIS, AND SYMPHORICARPOS OCCIDENTALIS.

Land owner/manager:
CROW INDIAN RESERVATION

Comments:
HABITAT DISTURBED BY LIVESTOCK, TRAILS, WOODS.

Information source: LESICA, PETER. DIVISION OF BIOLOGICAL SCIENCES,
UNIVERSITY OF MONTANA, MISSOULA, MT 59812. PHONE
406/728-8740.

Specimens: LESICA, P. (6310). 1994. SPECIMEN #119349. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: CAREX GRAVIDA
Common Name: PREGNANT SEDGE

Global rank: G5T? Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PMCYP035G1.004
Element occurrence type:

Survey site name: EAST FORK OTTER CREEK
EO rank: C
EO rank comments:

County: POWDER RIVER

USGS quadrangle: BEAVER CREEK SCHOOL

Township: Range: Section: TRS comments:
002S 046E 23 SE4SE4

Precision: S
Survey date: 1995-07-03 Elevation: 3900 -
First observation: 1995-06-24 Slope/aspect: LEVEL
Last observation: 1995-07-03 Size (acres): 1

Location:
CA. 5 MILES EAST OF ASHLAND ON HWY 212, CA. 10.5 MILES NORTHEAST ON FS
RD 423, CA. 1.5 MILES WEST ON FS RD 1409.

Element occurrence data:
20+ WIDELY SCATTERED VIGOROUS CLUMPS, IN VERY EARLY FRUIT 24 JUNE
1995.

General site description:
UPPER SHELTERED END OF DRAW IN PINUS PONDEROSA/MAHONIA REPENS HABITAT
TYPE, WITH WIDELY SCATTERED AMELANCHIER ALNIFOLIA THICKETS AND A
POPULUS TREMULOIDES CLONE IN NARROW BOTTOM. MOST OF POPULATION IS NEAR
ASPEN CLONE, IN PARTIAL SHADE. ASSOCIATED SPECIES: CAREX TORREYI, C.
HOODII, APOCYNUM ANDROSAEMIFOLIUM.

Land owner/manager:
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:
OBSERVED BY H. MARRIOTT. PLANT OCCURS IN SAME LOCALE AS DICHANTHELIUM
SCRIBNERIANUM BUT ON MORE LEVEL, SHADED SETTING.

Information source: HEIDEL, B. L. AND H. MARRIOTT. 1996. SENSITIVE
PLANT SPECIES SURVEY OF THE ASHLAND DISTRICT,
CUSTER NATIONAL FOREST, POWDER RIVER AND ROSEBUD
COUNTIES, MT. UNPUBLISHED REPORT TO THE U.S.
FOREST SERVICE. MONTANA NATURAL HERITAGE PROGRAM.
94 PP. PLUS APPENDICES.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: CEANOTHUS HERBACEUS VAR PUBESCENS
Common Name: NEW JERSEY TEA

Global rank: G5T? Forest Service status:
State rank: SH Federal Status:

Element occurrence code: PDRHA040K1.001
Element occurrence type:

Survey site name: SAYLE
EO rank:
EO rank comments:

County: POWDER RIVER

USGS quadrangle: SAYLE

Township: Range: Section: TRS comments:
007S 047E 16

Precision: G
Survey date: 1948-06-17 Elevation: 3860 -
First observation: 1948 Slope/aspect:
Last observation: 1948-06-17 Size (acres): 0

Location:
30 MI. SW. OF BROADUS, NEAR SAYLE (HISTORICAL COLLECTION).

Element occurrence data:
FEW PLANTS; P. LESICA "THOROUGHLY SEARCHED THE AREA ALONG THE MAIN
BLOOM CREEK ROAD AS WELL AS THE AREA AROUND OTHER NEARBY ROADS...WITH
NO SUCCESS" (SEE EF).

General site description:
N. SLOPE; GRASSY, PINE COVERED HILL.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:

Information source: LESICA, PETER. DIVISION OF BIOLOGICAL SCIENCES,
UNIVERSITY OF MONTANA, MISSOULA, MT 59812. PHONE
406/728-8740.

Specimens: BOOTH (S.N.). 1948. MONT.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: CENTAURIUM EXALTATUM
Common Name: WESTERN CENTAURY

Global rank: G5 Forest Service status:
State rank: SH Federal Status:

Element occurrence code: PDGEN02060.001
Element occurrence type:

Survey site name:
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: UNMAPPABLE

Township: Range: Section: TRS comments:

Precision: U
Survey date: Elevation: -
First observation: 1890-08-24 Slope/aspect:
Last observation: 1890-08-24 Size (acres):

Location:
"7 MILES SOUTH OF CUSTER STATION."

Element occurrence data:

General site description:

Land owner/manager:

Comments:
HERBARIUM LABEL LISTS BIG HORN COUNTY AS QUESTIONABLE LOCATION.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: UNKNOWN COLLECTOR. (S.N.). 1890. MONT.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: CERCOCARPUS MONTANUS VAR GLABER
Common Name: BIRCHLEAF MOUNTAIN-MAHOGANY

Global rank: G5TU Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDROS08023.001
Element occurrence type:

Survey site name: SARPY CREEK
EO rank:
EO rank comments:

County: TREASURE

USGS quadrangle: HYSHAM
SANDERS

Township: Range: Section: TRS comments:
006N 037E 20

Precision: M
Survey date: - - Elevation: 2770 -
First observation: 1969 Slope/aspect:
Last observation: 1969-11-13 Size (acres): 0

Location:
HYSHAM; ALONG BREAKS OF SARPY CREEK; GARVERICK RANCH.

Element occurrence data:
ABUNDANT.

General site description:
ALONG BREAKS OF CREEK.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
SENT BY COUNTY EXTENSION AGENT FOR ID FIDE BOOTH.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: COLLECTOR UNKNOWN. 1969. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: CHENOPODIUM SUBGLABRUM
Common Name: SMOOTH GOOSEFOOT

Global rank: G3 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDCHE091G0.001
Element occurrence type:

Survey site name: LOCATE
EO rank:
EO rank comments:

County: CUSTER

USGS quadrangle: LOCATE

Township: Range: Section: TRS comments:
008N 051E 23 S2

Precision: M
Survey date: Elevation: 2400 -
First observation: 1973 Slope/aspect:
Last observation: 1973-07-08 Size (acres): 0

Location:
WEST SIDE OF LOCATE ON POWDER RIVER FLOODPLAIN.

Element occurrence data:
ABUNDANT.

General site description:
SANDY SOIL ON FLOODPLAIN OF POWDER RIVER.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
IDENTIFICATION ANNOTATED BY D.J. CRAWFORD.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: STEPHENS, S. (67051). 1973. KU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: CLEOME LUTEA
Common Name: YELLOW BEE PLANT

Global rank: G5 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDCPP03070.003
Element occurrence type:

Survey site name: PRYOR MOUNTAINS
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: EAST PRYOR MOUNTAIN

Township: Range: Section: TRS comments:
007S 028E 09

Precision: G
Survey date: Elevation: 4500 -
First observation: 1967 Slope/aspect:
Last observation: 1967-06-24 Size (acres): 0

Location:
ALONG ROAD, SOUTH OF DRYHEAD COMMUNITY. (PLACED SOUTH OF DRYHEAD
RANCH.)

Element occurrence data:
SMALL COLONY, IN FLOWER.

General site description:
OPEN AREA.

Land owner/manager:
CROW INDIAN RESERVATION
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
STATE LAND - UNDESIGNATED

Comments:

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: BOOTH. (6745). 1967. WTU.
BOOTH, W. E. (6745). 1967. COLLECTION #63088. MONT.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: CONIOSELINUM SCOPULORUM
Common Name: HEMLOCK PARSLEY

Global rank: G4 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDAPI0P040.001
Element occurrence type:

Survey site name:
EO rank:
EO rank comments:

County: CARBON
BIG HORN

USGS quadrangle: MYSTERY CAVE

Township: Range: Section: TRS comments:
009S 028E 35 26

Precision: M
Survey date: 1954-07-18 Elevation: 3660 -
First observation: 1954 Slope/aspect:
Last observation: 1954-07-18 Size (acres): 0

Location:
ABOUT 15 MILES NORTH OF LOVELL, WYOMING; IN MOIST AREA ALONG BIGHORN RIVER.

Element occurrence data:
UNKNOWN.

General site description:
MOIST AREA ALONG RIVER.

Land owner/manager:
BLM: MILES CITY DISTRICT, BILLINGS RESOURCE AREA
PRYOR MOUNTAIN WILD HORSE RANGE
BIGHORN CANYON NATIONAL RECREATION AREA

Comments:
ANNOTATED BY R.L. HARTMAN, JULY 1980.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: BOOTH, W.E. (54639). 1954. SPECIMEN #49805. MT.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: CYPERUS ACUMINATUS
Common Name: SHORT-POINTED FLATSEDEGE

Global rank: G5 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PMCYP06010.003
Element occurrence type:

Survey site name: FORT KEOGH
EO rank: D
EO rank comments: SMALL POPULATION AND EXTENT OF HABITAT.

County: CUSTER

USGS quadrangle: BIG HILL

Township: Range: Section: TRS comments:
008N 047E 32 SE4NW4

Precision: S
Survey date: 1996-08-28 Elevation: 2350 -
First observation: 1996-08-28 Slope/aspect: 1%
Last observation: 1996-08-28 Size (acres): 1

Location:
1.5 MILES NORTH-NORTHWEST OF RANGE EXPERIMENT STATION HEADQUARTERS.
NORTH OF 1902 BRIDGE AND 1 MILE EAST ON FOOT.

Element occurrence data:
FEWER THAN 10 PLANTS IN FRUIT 28 AUGUST 1996.

General site description:
SHORT BAND OF FINE, SPARSELY-VEGETATED SAND DEPOSIT WITHIN LARGE RIVER
BAR COMPOSED OF MUD AND SMALL BOULDERS, SET BACK FROM YELLOWSTONE
RIVER SHORE BUT ON LOWEST TERRACE LEVEL. THE LOCALIZED SETTING IS
POTENTIALLY DOMINATED BY AGROPYRON SMITHII. OTHER ASSOCIATED SPECIES
INCLUDE GNAPHALIUM PALUSTRIS, ECHINOCHLOA CRUSGALLI, EROGROSTIS SPP.

Land owner/manager:
FORT KEOGH LIVESTOCK AND RANGE RESEARCH LABORATORY

Comments:
SMALL POPULATION SIZE AND EXTENT OF HABITAT. CANOE NEEDED FOR
EXTENDING THE SEARCH.

Information source: HEIDEL, BONNIE. [BOTANIST] MONTANA NATURAL
HERITAGE PROGRAM, 1515 EAST SIXTH AVENUE, P.O. BOX
201800, HELENA, MT 59620-1800. WORK: 406/444-3009.

Specimens: HEIDEL, B. (1530). 1996. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: CYPERUS SCHWEINITZII
Common Name: SCHWEINITZ' FLATSEGE

Global rank: G5 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PMCYP06360.003
Element occurrence type:

Survey site name: FORT KEOGH
EO rank:
EO rank comments:

County: CUSTER

USGS quadrangle: BIG HILL

Township: Range: Section: TRS comments:
008N 047E 32 NW4

Precision: M
Survey date: Elevation: 2380 -
First observation: 1977-07-07 Slope/aspect:
Last observation: 1977-07-07 Size (acres):

Location:
FORT KEOGH, "NORTH FOREST SERVICE ROAD." (CA. 2 MILES WEST OF CENTER
OF MILES CITY.)

Element occurrence data:

General site description:

Land owner/manager:
FORT KEOGH LIVESTOCK AND RANGE RESEARCH LABORATORY

Comments:
INFORMATION PROVIDED BY MIKE "SHERM" KARL AND BRYON BENNETT, FORT
KEOGH.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: ROMO, J. (S.N.). 1977. SPECIMEN #00275. LARRL.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: DALEA ENNEANDRA
Common Name: NINE-ANTHER DALEA

Global rank: G5 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDFAB1A0D0.001
Element occurrence type:

Survey site name: BALDY BUTTE
EO rank:
EO rank comments:

County: CUSTER

USGS quadrangle: MILLER CREEK SW

Township: Range: Section: TRS comments:
004N 045E 30 NE4

Precision: M
Survey date: Elevation: 3080 -
First observation: 1975 Slope/aspect:
Last observation: 1975-07-28 Size (acres): 0

Location:
SOUTH SLOPE, OFF THE BEAVER CREEK ROAD.

Element occurrence data:
UNKNOWN.

General site description:
ON STABILIZED SOUTH SLOPE; RUBBLE.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
NONE.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: EDDLEMAN, L. (S.N.). 1975. SPECIMEN #076537. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: DALEA ENNEANDRA
Common Name: NINE-ANTHER DALEA

Global rank: G5 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDFAB1A0D0.003
Element occurrence type:

Survey site name: COTTONWOOD CREEK
EO rank:
EO rank comments:

County: CUSTER

USGS quadrangle: HORTON

Township: Range: Section: TRS comments:
006N 045E 03

Precision: S
Survey date: Elevation: 2500 - 2660
First observation: 1993-09-21 Slope/aspect: 15-50% / SOUTH
Last observation: 1993-09-21 Size (acres):

Location:
CA. 16.25 MILES WEST OF MILES CITY. TAKE FRONTAGE ROAD WEST OF MOON
CREEK EXIT.

Element occurrence data:
6 SUBPOPULATIONS, 90% FLOWERING.

General site description:
DRY, OPEN MID TO LOWER SLOPE ALLUVIAL FINGER RIDGES. ALLUVIAL GRAVEL
PARENT MATERIAL, COARSE LOAM SOIL. ASSOCIATED SPECIES: STIPA COMATA,
ANDROPOGON SCOPARIUS, ARISTIDA PURPUREA VAR. ROBUSTA, YUCCA GLAUCA.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
OBSERVED BY DARRELL GRANBOIS, RANGE CONSERVATIONIST, SOIL CONSERVATION
SERVICE.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: DICHANTHELIUM OLIGOSANTHES VAR SCRIBNERIANUM
Common Name: SCRIBNER'S PANIC GRASS

Global rank: G5T5 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PMPOA240Q2.001
Element occurrence type:

Survey site name: BLOOM CREEK
EO rank:
EO rank comments:

County: POWDER RIVER

USGS quadrangle: SAYLE

Township: Range: Section: TRS comments:
007S 047E 13
007S 048E 7

Precision: G
Survey date: 1984- - Elevation: 3800 -
First observation: 1948 06-19 Slope/aspect:
Last observation: 1995 Size (acres): 0

Location:
BLOOM CREEK DRAINAGE, 30 MILES SW OF BROADUS (HISTORICAL COLLECTION).

Element occurrence data:
UNKNOWN; SOME FIELD SURVEYS DONE IN 1984 AND IN 1995, BUT SPECIES NOT
RELOCATED: LESICA "...SEARCHED ALONG THE ROADS IN THE BLOOM CREEK
DRAINAGE EAST OF FORT HOWES WITHOUT SUCCESS." (SEE EF).

General site description:
ALONG MOIST DITCH, PLANTS SCATTERED IN BUNCHGRASS UNDER PINUS
PONDEROSA.

Land owner/manager:
CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:

Information source: HEIDEL, B. L. AND H. MARRIOTT. 1996. SENSITIVE
PLANT SPECIES SURVEY OF THE ASHLAND DISTRICT,
CUSTER NATIONAL FOREST, POWDER RIVER AND ROSEBUD
COUNTIES, MT. UNPUBLISHED REPORT TO THE U.S.
FOREST SERVICE. MONTANA NATURAL HERITAGE PROGRAM.
94 PP. PLUS APPENDICES.

Specimens: BOOTH, W. E. (2599). 19 JUNE 1948. MONT.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: DICHANTHELIUM OLIGOSANTHES VAR SCRIBNERIANUM
Common Name: SCRIBNER'S PANIC GRASS

Global rank: G5T5 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PMPOA240Q2.002
Element occurrence type:

Survey site name: EAST FORK OTTER CREEK
EO rank: D
EO rank comments:

County: POWDER RIVER

USGS quadrangle: BEAVER CREEK SCHOOL

Township: Range: Section: TRS comments:
002S 046E 23 SE4SE4

Precision: S
Survey date: 1995-07-03 Elevation: 3920 -
First observation: 1995-07-03 Slope/aspect: 2-15% / SOUTH
Last observation: 1995-07-03 Size (acres): 1

Location:

TRAVEL CA. 5 MILES EAST OF ASHLAND ON HWY 212, CA. 10.5 MILES
NORTHEAST ON FS RD 423, THEN CA. 1.5 MILES WEST ON FS RD 1409.

Element occurrence data:

UNCOMMON; ONLY 5 PLANTS FOUND IN 2 SUBPOPULATIONS, IN VERY EARLY FRUIT
3 JULY 1995.

General site description:

UPPER END OF DRAW IN PINUS PONDEROSA/MAHONIA REPENS HABITAT TYPE. IN
SEMI-OPEN POCKETS, IN A SIDEARM MEADOW AND ON LOWER SOUTH-FACING
SLOPE. ASSOCIATED SPECIES: AGROPYRON SPICATUM, CAREX SPRENGELII, POA
PRATENSIS.

Land owner/manager:

CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:

OBSERVED BY B. HEIDEL. PLANT OCCURS IN SAME LOCALE AS CAREX GRAVIDA,
BUT ON MORE WELL-DRAINED, OPEN SETTINGS.

Information source:

HEIDEL, B. L. AND H. MARRIOTT. 1996. SENSITIVE
PLANT SPECIES SURVEY OF THE ASHLAND DISTRICT,
CUSTER NATIONAL FOREST, POWDER RIVER AND ROSEBUD
COUNTIES, MT. UNPUBLISHED REPORT TO THE U.S.
FOREST SERVICE. MONTANA NATURAL HERITAGE PROGRAM.
94 PP. PLUS APPENDICES.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: *DICHANTHELIUM OLIGOSANTHES* VAR *SCRIBNERIANUM*
Common Name: SCRIBNER'S PANIC GRASS

Global rank: G5T5 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PMPOA240Q2.003
Element occurrence type:

Survey site name: CABIN CREEK
EO rank: D
EO rank comments:

County: POWDER RIVER

USGS quadrangle: BEAVER CREEK SCHOOL

Township: Range: Section: TRS comments:
002S 046E 20 NW4NE4

Precision: S
Survey date: 1995-07-03 Elevation: 3900 -
First observation: 1995-07-03 Slope/aspect: 0% / NW
Last observation: 1995-07-03 Size (acres): 1

Location:

TRAVEL CA. 5 MILES EAST OF ASHLAND ON HWY 212, CA. 10.5 MILES
NORTHEAST ON FS RD 423, THEN CA. 5.5 MILES WEST ON FS RD 1409.

Element occurrence data:

5 MULTI-STEMMED PLANTS IN ONE CLUSTER; FRUITING RELATIVELY EARLY 3
JULY 1995 IN A BURNED AREA.

General site description:

HEADWATERS OF DRAW ABOVE CABIN CREEK ON GENTLE UPPER END IN AREA OF
OPEN PINE STAND KILLED IN CROWN FIRE. ASSOCIATED SPECIES: *CAREX*
DEWEYANA, *POA PRATENSIS*, *ASTRAGALUS AMERICANUS*, *A. AGRESTIS*.

Land owner/manager:

CUSTER NATIONAL FOREST, ASHLAND RANGER DISTRICT

Comments:

Information source: HEIDEL, B. L. AND H. MARRIOTT. 1996. SENSITIVE
PLANT SPECIES SURVEY OF THE ASHLAND DISTRICT,
CUSTER NATIONAL FOREST, POWDER RIVER AND ROSEBUD
COUNTIES, MT. UNPUBLISHED REPORT TO THE U.S.
FOREST SERVICE. MONTANA NATURAL HERITAGE PROGRAM.
94 PP. PLUS APPENDICES.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: EUPATORIUM MACULATUM
Common Name: JOE-PYE WEED

Global rank: G5TU Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDAST3P141.001
Element occurrence type:

Survey site name: EAST CABIN CREEK
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: GRAPEVINE DOME
LITTLE FINGER RIDGE

Township: Range: Section: TRS comments:
007S 030E 03 W2

Precision: M
Survey date: 1983-08-09 Elevation: 3700 -
First observation: 1983 Slope/aspect:
Last observation: 1983-08-09 Size (acres): 0

Location:
EAST CABIN CREEK ALONG YELLOWTAIL RESERVOIR. (BIG HORN CANYON NATIONAL
RECREATION AREA; RESERVOIR LABELED AS BIGHORN LAKE ON GRAPEVINE DOME
QUAD.)

Element occurrence data:
UNKNOWN.

General site description:
MOIST CANYON BOTTOM.

Land owner/manager:
BIGHORN CANYON NATIONAL RECREATION AREA
CROW INDIAN RESERVATION

Comments:
EAST CABIN CREEK IS DISCUSSED AS A "UNIQUE AREA" BY LICHVAR, ET AL.
(1984; U84LIC01MTUS), PP. 8-9.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: LICHVAR. (6891). 1983. SPECIMEN #355340. RM.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: EUPATORIUM MACULATUM
Common Name: JOE-PYE WEED

Global rank: G5TU Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDAST3P141.002
Element occurrence type:

Survey site name: PRYOR CREEK
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: PRYOR

Township: Range: Section: TRS comments:
005S 026E 18

Precision: G
Survey date: Elevation: 4180 -
First observation: 1952 Slope/aspect:
Last observation: 1952-07-29 Size (acres): 0

Location:
PRYOR CREEK. [SOUTH OF PRYOR (TOWN)].

Element occurrence data:
FAIRLY ABUNDANT IN DITCH LOCALLY; IN FLOWER.

General site description:
MOIST CREEK BOTTOM.

Land owner/manager:
CROW INDIAN RESERVATION
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
GENERAL LOCATION ONLY.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: MORRIS, H.E. (S.N.). 1952. MONT. (MRPP CARD).

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: EUPATORIUM MACULATUM
Common Name: JOE-PYE WEED

Global rank: G5TU Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDAST3P141.004
Element occurrence type:

Survey site name: YOUNGS CREEK
EO rank: B
EO rank comments: SMALL AREA, LIVESTOCK AREA, DISTURBED.

County: BIG HORN

USGS quadrangle: BAR V RANCH

Township: Range: Section: TRS comments:
009S 038E 25 SW4NW4

Precision: S
Survey date: 1994-06-08 Elevation: 3820 -
First observation: 1994-06-08 Slope/aspect:
Last observation: 1994-06-08 Size (acres): 5

Location:
ALONG YOUNGS CREEK, CA. 20 MILES NORTHWEST OF SHERIDAN, WY, AND JUST
INSIDE THE CROW RESERVATION BOUNDARY.

Element occurrence data:
100-500 PLANTS, VEGETATIVE.

General site description:
SHADED TO PARTIALLY-SHADED MOIST CREEK BOTTOM, SILTY ALLUVIUM
FLOODPLAIN. ASSOCIATED SPECIES: ACER SACHARINUM, FRAXINUS
PENNSYLVANICA, CRATAEGUS COLUMBIANA, PRUNUS VIRGINIANA, SYMPHORICARPOS
OCCIDENTALIS, THALICTRUM DASYCARPUM, CIRSIIUM ARVENSE, CAREX AQUATILIS.

Land owner/manager:
CROW INDIAN RESERVATION
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
OBSERVED BY P. LESICA. WEEDS, LIVESTOCK USE AREA. ENTIRE AREA NOT
SURVEYED.

Information source: LESICA, PETER. DIVISION OF BIOLOGICAL SCIENCES,
UNIVERSITY OF MONTANA, MISSOULA, MT 59812. PHONE
406/728-8740.

Specimens: LESICA, P. (6323). 1994. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: GRATIOLA EBRACTEATA
Common Name: BRATTLESS HEDGE-HYSSOP

Global rank: G4 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDSCR0R030.002
Element occurrence type:

Survey site name: BILLINGS
EO rank:
EO rank comments:

County: YELLOWSTONE

USGS quadrangle: UNMAPPABLE

Township: Range: Section: TRS comments:

Precision: U	
Survey date:	Elevation: -
First observation: 1903	Slope/aspect:
Last observation: 1903-06-30	Size (acres):

Location:
BILLINGS (HISTORICAL RECORD).

Element occurrence data:
UNKNOWN.

General site description:
ALKALI FLORA.

Land owner/manager:

Comments:
NONE.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: BLANKINSHIP, J. W. (S.N.). 1903. MONT. (MRPP CARD).

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: GRAYIA SPINOSA
Common Name: SPINY HOPSAGE

Global rank: G5 Forest Service status:
State rank: S2 Federal Status:

Element occurrence code: PDCHE0C020.001
Element occurrence type:

Survey site name:
EO rank:
EO rank comments:

County: CARBON
BIG HORN

USGS quadrangle: MYSTERY CAVE
HILLSBORO

Township: Range: Section: TRS comments:
008S 028E 35

Precision: G
Survey date: 1967-06-24 Elevation: 4200 -
First observation: 1967 Slope/aspect:
Last observation: 1967-06-24 Size (acres): 0

Location:
SOUTH OF DRYHEAD COMMUNITY ABOUT 10 MILES. FLAT OVERLOOKING THE RIVER.

Element occurrence data:
UNKNOWN.

General site description:
ON FLAT ABOVE RIVER.

Land owner/manager:
BLM: MILES CITY DISTRICT, BILLINGS RESOURCE AREA
PRYOR MOUNTAIN WILD HORSE RANGE
BIGHORN CANYON NATIONAL RECREATION AREA

Comments:
ANNOT. FROM SARCOBATUS BY ?

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: BOOTH, W. E. (6740). 1967. SPECIMEN #63292. MT.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: LOMATIUM NUTTALLII
Common Name: NUTTALL DESERT-PARSLEY

Global rank: G4 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDAP11B1B0.001
Element occurrence type:

Survey site name: SQUIRREL CREEK DRAINAGE
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: DECKER

Township: Range: Section: TRS comments:
009S 040E 20

Precision: M
Survey date: Elevation: 3600 -
First observation: 1980-07-18 Slope/aspect:
Last observation: 1980-07-18 Size (acres):

Location:
SQUIRREL CREEK DRAINAGE, CA. 1 MILE NORTH OF DECKER.

Element occurrence data:
UNCOMMON.

General site description:
SHALLOW, ROCKY SOIL OF A SANDSTONE CLIFF WITH AGROPYRON SPICATUM,
PINUS PONDEROSA, JUNIPERUS SCOPULORUM.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
NORTHERN CHEYENNE INDIAN RESERVATION
STATE LAND - UNDESIGNATED

Comments:
LABEL INFORMATION GIVE LOCATION AS "5 KM NORTH OF DECKER;" OCCURRENCE
MAPPED CA. 1 MILE NORTH OF DECKER BASED ON OTHER LOCATION INFORMATION.

Information source: LESICA, P. IN PROGRESS. NOTES ON NEW ADDITIONS TO
MONTANA FLORA.

Specimens: HUSBY, P. (S.N.). 1980. MONTU, UC. DET. L. CONSTANCE.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: MENTZELIA NUDA
Common Name: BRATTLESS MENTZELIA

Global rank: G5 Forest Service status: WATCH
State rank: S1 Federal Status:

Element occurrence code: PDLOA03150.002
Element occurrence type:

Survey site name:
EO rank:
EO rank comments:

County: CUSTER

USGS quadrangle: LOCATE

Township: Range: Section: TRS comments:
008N 051E 24

Precision: G
Survey date: 1941-08-03 Elevation: 2500 -
First observation: 1941 Slope/aspect:
Last observation: 1941-08-03 Size (acres): 0

Location:
32 MILES EAST OF MILES CITY (HISTORICAL RECORD).

Element occurrence data:
UNKNOWN.

General site description:
ROADSIDE.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
BLM: MILES CITY DISTRICT, BIG DRY RESOURCE AREA

Comments:
ANNOTATED FROM M.STRICTA BY PORTER 1968 AND THOMPSON AND ZAVORTINK
1968.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: BRECKLE, J. F. AND L. H. SHINNERS (41-006). 1941.
SPECIMEN #189262. RM.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: MENTZELIA NUDA
Common Name: BRATTLESS MENTZELIA

Global rank: G5 Forest Service status: WATCH
State rank: S1 Federal Status:

Element occurrence code: PDLOA03150.003
Element occurrence type:

Survey site name:
EO rank:
EO rank comments:

County: CUSTER

USGS quadrangle: HORTON

Township: Range: Section: TRS comments:
007N 045E 34

Precision: G
Survey date: 1954-07-28 Elevation: 2200 -
First observation: 1954 Slope/aspect:
Last observation: 1954-07-28 Size (acres): 0

Location:
10 MILES WEST OF MILES CITY ALONG THE YELLOWSTONE RIVER.

Element occurrence data:
FLOWERS WHITE.

General site description:
ON GRAVELLY BLUFFS.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
VERIFIED BY R.J. HILL, RM, 8/2/75. EO LIKELY TO EXTEND INTO SECTIONS
26,27,32,33.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: PORTER, C. L. (6594). 1954. SPECIMEN #241844. RM.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: PENSTEMON GRANDIFLORUS
Common Name: LARGE FLOWERED BEARDTONGUE

Global rank: G5? Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDSCR1L750.001
Element occurrence type:

Survey site name: FORT KEOGH
EO rank:
EO rank comments:

County: CUSTER

USGS quadrangle: LIGNITE CREEK

Township: Range: Section: TRS comments:
007N 046E 11 SE4; 12 N2
007N 047E 7

Precision: M
Survey date: Elevation: 2370 -
First observation: 1977-07-23 Slope/aspect: LEVEL
Last observation: 1994-06-12 Size (acres): 2

Location:

FORT KEOGH, "WOODS PASTURE." CA. 4 MILES WEST OF MILES CITY CENTER.
FOLLOW 2-TRACK DIRT ROAD CLOSEST TO YELLOWSTONE RIVER. HEAD WEST AND
POPULATION IS CA. 50 FEET SOUTH OF DIRT ROAD; ALSO AT MILES CITY RANGE
AND LIVESTOCK EXPERIMENTAL STATION.

Element occurrence data:

73 INDIVIDUALS ON 1-2 ACRES. >75% FLOWERING AND FRUITING. SEEDS
PRODUCED, NO SEEDLINGS OBSERVED.

General site description:

SANDY RANGE SITE, OPEN EXPOSURE, SOME WITH PARTIAL SHADE. DRY,
OCCURRING ON SLIGHTLY ELEVATED KNOB. COARSE SOIL, BOTTOM SLOPE.
ASSOCIATED SPECIES: AMBROSIA PSILOSTACHYA, AGROPYRON SMITHII, AND
SPOROBOLUS CRYPTANDRUS.

Land owner/manager:

FORT KEOGH LIVESTOCK AND RANGE RESEARCH LABORATORY

Comments:

INFORMATION PROVIDED BY MIKE "SHERM" KARL AND BRYON BENNETT, FORT
KEOGH. SITE IS WINTER GRAZED BY CATTLE AT A LIGHT TO MODERATE STOCKING
RATE. SPECIMENS COLLECTED BY MIKE "SHERM" KARL (NUMBERS UNKNOWN) AND
J. ROMO (00287) AT FORT KEOGH HERBARIUM.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: ROMO, J. (S.N.). 1977. SPECIMEN #087909. MONTU.
ROMO, J. (S.N.). 1977. SPECIMEN #00287. LARRL.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: PHLOX ANDICOLA
Common Name: PLAINS PHLOX

Global rank: G4 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDPLMOD080.004
Element occurrence type:

Survey site name: ROSEBUD CREEK
EO rank: A
EO rank comments: EXTENSIVE.

County: ROSEBUD

USGS quadrangle: HAMMOND DRAW SW

Township: Range: Section: TRS comments:
001N 042E 14 SE4; 13 NW4; 24 NW4

Precision: S
Survey date: 1996-06-10 Elevation: 3100 - 3200
First observation: 1996-06-10 Slope/aspect: 0-5% / ALL
Last observation: 1996-06-10 Size (acres):

Location:

FROM COLSTRIP TAKE HWY 315 CA. 3.5 MILES SOUTH, THEN TAKE SOUTH FORK
COW CREEK ROAD CA. 5 MILES EAST. POPULATIONS LIE 0.5-1.1 AIR MILES
SOUTH OF ROAD.

Element occurrence data:

CA. 10,000 PLANTS IN BROKEN BANDS ALONG UPPER PINE-COVERED ESCARPMENT
SLOPES, MOSTLY FINISHED FLOWERING OR VEGETATIVE, LOCALLY COMMON AND
SPORADIC IN ADJOINING GRASSLAND. VIGOROUS IN BURN AREAS.

General site description:

PINE-COVERED ESCARPMENT SLOPES GRADING INTO DRAINAGE; COARSE OUTCROPS
ON ROLLING OPEN PLAINS. EXTENSIVELY BURNED IN 1995 WILDFIRE AT SOUTH
END.

Land owner/manager:

BLM: MILES CITY DISTRICT, POWDER RIVER RESOURCE AREA
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

THE SOUTH END OF SECTION 14 AND ALL BLM LAND IN SECTION 24 BURNED IN
1995 SUMMER WILDFIRE, KILLING SOME PHLOX IN PINE LITTER, BUT
INCREASING VIGOR AND REDUCING COMPETITION IN ALL OTHER SETTINGS.

Information source: HEIDEL, BONNIE. [BOTANIST] MONTANA NATURAL
HERITAGE PROGRAM, 1515 EAST SIXTH AVENUE, P.O. BOX
201800, HELENA, MT 59620-1800. WORK: 406/444-3009.

Specimens: HEIDEL, B. (1453). 1996. MONTU.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: PHYSARIA DIDYMOCARPA VAR LANATA
Common Name: WOOLLY TWINPOD

Global rank: G5T2 Forest Service status:
State rank: SU Federal Status:

Element occurrence code: PDBRA22075.001
Element occurrence type:

Survey site name: SPRING CREEK
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: HALF MOON HILL
PEARL SCHOOL

Township: Range: Section: TRS comments:
008S 039E 14 N2; 22 E2

Precision: S
Survey date: Elevation: 3800 - 4100
First observation: 1993-05 Slope/aspect: STEEP / SE
Last observation: 1993-08 Size (acres):

Location:
CA. 8 MILES NORTH-NORTHWEST OF DECKER, WEST OF ROUTE 314.

Element occurrence data:
FLOWERING MOSTLY IN MAY, BUT A FEW PLANTS STILL FLOWERING IN AUGUST.
LOCALLY ABUNDANT, 1000-2000 PLANTS.

General site description:
"SCORIA" AND SOMETIMES SHALE SUBSTRATE.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
BLM: MILES CITY DISTRICT, BILLINGS RESOURCE AREA

Comments:

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: PLAGIOBOTHRYS LEPTOCLADUS
Common Name: SLENDER-BRANCHED POPCORN-FLOWER

Global rank: G4 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDBOROV0N0.003
Element occurrence type:

Survey site name: KEOGH
EO rank:
EO rank comments:

County: CUSTER

USGS quadrangle: LIGNITE CREEK

Township: Range: Section: TRS comments:
006N 046E 4

Precision: M
Survey date: Elevation: 2800 -
First observation: 1937-05-31 Slope/aspect: LEVEL
Last observation: 1937-05-31 Size (acres):

Location:
DRY LAKE, PASTURE K. NRM-USRL EXPERIMENTAL STATION.

Element occurrence data:
LOCALLY ABUNDANT. FLOWER WHITE.

General site description:
DRY LAKE BED. FOUND ON HEAVY CLAY WHERE WATER HAS STOOD.

Land owner/manager:
FORT KEOGH LIVESTOCK AND RANGE RESEARCH LABORATORY

Comments:
This was mapped in "Pasture Custer JK" though its only wetland habitat is in stockdams and drainageways.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: WOOLFOLK, E. J. (W-112). 1937. MRC.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: POTENTILLA PLATTENSIS
Common Name: PLATTE CINQUEFOIL

Global rank: G4 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDROS1B1E0.002
Element occurrence type:

Survey site name: EAST PRYOR MOUNTAIN
EO rank:
EO rank comments:

County: CARBON
BIG HORN

USGS quadrangle: EAST PRYOR MOUNTAIN

Township: Range: Section: TRS comments:
007S 027E 36

Precision: G
Survey date: Elevation: 8000 -
First observation: 1937 Slope/aspect:
Last observation: 1937-06-22 Size (acres): 0

Location:
EAST PRYOR MOUNTAIN (NORTHWEST OF HILLSBORO).

Element occurrence data:
IN FLOWER (22 JUNE 1937).

General site description:
UNKNOWN.

Land owner/manager:
CUSTER NATIONAL FOREST, BEARTOOTH RANGER DISTRICT
BLM: MILES CITY DISTRICT, BILLINGS RESOURCE AREA
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
LABEL READS "BIGHORN COUNTY," HOWEVER, EAST PRYOR MOUNTAIN IS IN
CARBON COUNTY.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: NAYLOR, D. (S.N.). 1937. MONT. (MRPP CARD).

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: PSORALEA HYPOGAEA
Common Name: LITTLE INDIAN BREADROOT

Global rank: G5T4? Forest Service status:
State rank: S2 Federal Status:

Element occurrence code: PDFAB5L0C1.001
Element occurrence type:

Survey site name: LEE COULEE
EO rank:
EO rank comments:

County: ROSEBUD

USGS quadrangle: COLSTRIP SW

Township: Range: Section: TRS comments:
001N 041E 29 NW4

Precision: M
Survey date: 1984-06-06 Elevation: 3380 -
First observation: 1984 Slope/aspect:
Last observation: 1984-06-06 Size (acres): 0

Location:
CA. 0.75 AIR MILES NORTH OF LEE COULEE, CA. 5 AIR MILES SSW OF
COLSTRIP.

Element occurrence data:
UNKNOWN.

General site description:
SANDY PINUS PONDEROSA GRASSLAND.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: CULWELL, D. AND L. LARSEN (S.N.). 1984. SPECIMEN
#353559. RM.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: PSORALEA HYPOGAEA
Common Name: LITTLE INDIAN BREADROOT

Global rank: G5T4? Forest Service status:
State rank: S2 Federal Status:

Element occurrence code: PDFAB5L0C1.005
Element occurrence type:

Survey site name: GREENLEAF CREEK
EO rank: CD
EO rank comments: FAIR HABITAT QUALITY, SMALL POPULATION.

County: ROSEBUD

USGS quadrangle: HAMMOND DRAW SW

Township: Range: Section: TRS comments:
001S 043E 14 NW4SW4

Precision: S
Survey date: 1996-06-11 Elevation: 3160 -
First observation: 1996-06-11 Slope/aspect: 0-2% / EAST
Last observation: 1996-06-11 Size (acres):

Location:
TAKE TONGUE RIVER ROAD CA. 10 MILES NORTH FROM ASHLAND, THEN GO WEST
AND NORTH ON LAY CREEK ROAD CA. 6 MILES. POPULATION IS ON SANDSTONE
OUTCROP ABOVE GREENLEAF CREEK.

Element occurrence data:
4 PLANTS IN BUD, ALONG NARROW BAND OF SUITABLE HABITAT.

General site description:
BASE OF SMALL SANDSTONE OUTCROP, AT SOUTHEAST END. THE LOOSE SAND WAS
LOCALLY DOMINATED BY SCHIZACHYRIUM SCOPARIUM IN PARTIAL SHADE OF PINUS
PONDEROSA. ASSOCIATED SPECIES: CALAMOVILFA LONGIFOLIA, PSORALEA
PSEULENTA, ASTRAGALUS PURSHII, ASCLEPIAS OVALIFOLIA.

Land owner/manager:
BLM: MILES CITY DISTRICT, POWDER RIVER RESOURCE AREA

Comments:
MODERATE LONG-STANDING CATTLE USE IN AREA CHANGING FORB COMPOSTION.
PINE SAPLINGS ENCROACHED IN PART OF POTENTIAL HABITAT.

Information source: HEIDEL, BONNIE. [BOTANIST] MONTANA NATURAL
HERITAGE PROGRAM, 1515 EAST SIXTH AVENUE, P.O. BOX
201800, HELENA, MT 59620-1800. WORK: 406/444-3009.

Specimens:

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: PSORALEA HYPOGAEA
Common Name: LITTLE INDIAN BREADROOT

Global rank: G5T4? Forest Service status:
State rank: S2 Federal Status:

Element occurrence code: PDFAB5L0C1.006
Element occurrence type:

Survey site name: ROSEBUD CREEK
EO rank: B
EO rank comments: GOOD HABITAT EXTENT AND LOCAL CONDITION.

County: ROSEBUD

USGS quadrangle: HAMMOND DRAW SW

Township: Range: Section: TRS comments:
001N 042E 14 SE4NE4; NE4SE4

Precision: S
Survey date: 1996-06-10 Elevation: 3120 - 3160
First observation: 1996-06-10 Slope/aspect: 0-10% / SOUTH, SW
Last observation: 1996-06-10 Size (acres):

Location:
FROM COLSTRIP, TAKE HWY 315 3.5 MILES SOUTH TO SOUTH FORK COW CREEK
ROAD, AND GO EAST 5 MILES. POPULATION IS ON SANDSTONE OUTCROPS CA. 0.5
MILE SOUTH OF ROAD.

Element occurrence data:
OVER 200 PLANTS IN THREE AREAS; HIGHEST NUMBERS ARE IN THE
SUBPOPULATION WEST OF 2-TRACK.

General site description:
SANDY AREAS AT BASE OF SANDSTONE ESCARPMENT OUTCROPS ON THEIR SOUTHERN
EXPOSURES, IN OPEN TO PARTIAL SHADE OF PINUS PONDEROSA. LOCALLY
DOMINATED BY SCHIZACHYRIUM SCOPARIUM-CAREX FILIFOLIA. ASSOCIATED
SPECIES: RHUS TRILOBATA, ORYZOPSIS HYMENOIDES, BOUTELOUA GRACILIS,
TRADESCANTIA OCCIDENTALIS.

Land owner/manager:
BLM: MILES CITY DISTRICT, POWDER RIVER RESOURCE AREA

Comments:
HISTORY OF HEAVY GRAZING IN AREA; SITE IS IN IMPROVING TREND, AND THE
SUBPOPULATIONS ARE IN AREAS RELATIVELY FREE OF THE PREVAILING BROMUS
TECTORUM INVASION.

Information source: HEIDEL, BONNIE. [BOTANIST] MONTANA NATURAL
HERITAGE PROGRAM, 1515 EAST SIXTH AVENUE, P.O. BOX
201800, HELENA, MT 59620-1800. WORK: 406/444-3009.

Specimens: HEIDEL, B. (S.N.). 1996. REPOSITORY UNKNOWN.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: RORIPPA CALYCINA
Common Name: PERSISTENT-SEPAL YELLOW-CRESS

Global rank: G3 Forest Service status: WATCH
State rank: S1 Federal Status:

Element occurrence code: PDBRA27040.002
Element occurrence type:

Survey site name: CUSTER
EO rank:
EO rank comments:

County: YELLOWSTONE
CUSTER

USGS quadrangle: UNMAPPABLE

Township: Range: Section: TRS comments:

Precision:	U	
Survey date:	1890-05-10	Elevation: 0 -
First observation:	1890	Slope/aspect:
Last observation:	1890-05-10	Size (acres): 0

Location:
"7 MI. SOUTH OF CUSTER STATION" (SEE STUCKEY (1972), P. 294: LOCATION
MAY PERHAPS BE EITHER CUSTER (YELLOWSTONE COUNTY), OR CUSTER COUNTY.
HISTORICAL RECORD.

Element occurrence data:
UNKNOWN; SPECIMEN ORIGINALLY LABELED NASTURTIIUM SINUATUM VAR.
CALYCINUM, WITH ANNOTATION = "THIS IS N. CALYCINUM AND COLLECTED NEAR
THE TYPE LOCALITY. JWB (BLANKINSHIP). ! GRAY HERBARIUM" (SEE
COMMENTS).

General site description:
MUDDY RIVER MARGIN; MAY OCCUR IN WATERSHED 10100001.

Land owner/manager:

Comments:
STUCKEY (1972) CITES AN ADDITIONAL SPECIMEN: J.W.BLANKINSHIP (S.N.),
DATE UNKNOWN, (MO!): "CUSTER, MT (TYPE LOCALITY)."

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: BLANKINSHIP, J. W. (107). 1890. SPECIMEN #9277 (MONT;
TOPOTYPE).

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: RORIPPA CALYCINA
Common Name: PERSISTENT-SEPAL YELLOW-CRESS

Global rank: G3 Forest Service status: WATCH
State rank: S1 Federal Status:

Element occurrence code: PDBRA27040.004
Element occurrence type:

Survey site name: "FORT SARPY" (SHEFFIELD)
EO rank:
EO rank comments:

County: CUSTER

USGS quadrangle: HATHAWAY
HORTON

Township: Range: Section: TRS comments:
007N 045E 32 29,31

Precision: G
Survey date: 1854-07- Elevation: 2405 -
First observation: 1854 Slope/aspect:
Last observation: 1854-07- Size (acres): 0

Location:
"ON YELLOWSTONE (RIVER) NEAR FORT SARPY" (STUCKEY (1972), P. 294,
NOTES THAT "FORT ALEXANDER SARPY WAS AT ABOUT THE PRESENT LOCATION OF
SHEFFIELD" IN WEST CUSTER COUNTY).

Element occurrence data:
UNKNOWN; STUCKEY (1972), P. 294, STATES: "FT. SARPY WAS LOCATED ON THE
YELLOWSTONE ABOVE THE MOUTH OF THE TONGUE R. APPROX. WHERE SHEFFIELD
IN WESTERN CUSTER COUNTY, MONTANA IS TODAY".

General site description:
SANDY BOTTOMS.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

Information source: STUCKEY, R. L. 1972. TAXONOMY AND DISTRIBUTION OF
THE GENUS RORIPPA (CRUCIFERAE) IN NORTH AMERICA.
SIDA 4:279-430.

Specimens: HAYDEN, F. V. (S.N.). 1854. MO. ! (DESIGNATED AS
LECTOTYPE BY STUCKEY (1972)).

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: SPOROBOLUS ASPER
Common Name: LONGLEAF DROPSEED

Global rank: G5 Forest Service status:
State rank: SU Federal Status:

Element occurrence code: PMPOA5V030.001
Element occurrence type:

Survey site name: FORT KEOGH
EO rank:
EO rank comments:

County: CUSTER

USGS quadrangle: PADDY FAY CREEK

Township: Range: Section: TRS comments:
007N 047E 34

Precision: M
Survey date: Elevation: 2470 -
First observation: 1957-08-31 Slope/aspect:
Last observation: 1957-08-31 Size (acres):

Location:
FORT KEOGH LIVESTOCK AND RANGE LABORATORY, "SOUTHERLY-MOST DRAW IN
N-2B PASTURE."

Element occurrence data:

General site description:
SILTY LOAM.

Land owner/manager:
FORT KEOGH LIVESTOCK AND RANGE RESEARCH LABORATORY

Comments:
INFORMATION PROVIDED BY MIKE "SHERM" KARL AND BRYON BENNETT, FORT
KEOGH.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: DAHLEN, C. (S.N.). 1957. SPECIMEN #00435. LARRL.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: STIPA LETTERMANII
Common Name: LETTERMAN'S NEEDLEGRASS

Global rank: G5 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PMPOA5X0H0.001
Element occurrence type:

Survey site name:
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: DEAD INDIAN HILL

Township: Range: Section: TRS comments:
007S 029E 35 SW4

Precision: M
Survey date: 1983-06-13 Elevation: 3800 -
First observation: 1983 Slope/aspect:
Last observation: 1983-06-13 Size (acres): 0

Location:
ABOUT 1 MILE NORTHEAST OF DEAD INDIAN HILL.

Element occurrence data:
UNKNOWN.

General site description:
LIMESTONE TALUS IN NARROW CANYON.

Land owner/manager:
BIGHORN CANYON NATIONAL RECREATION AREA

Comments:
NONE.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: COLLINS (732). 1983. SPECIMEN #355268. RM.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: SULLIVANTIA HAPEMANII
Common Name: WYOMING SULLIVANTIA

Global rank: G3T3 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDSAX0X012.001
Element occurrence type:

Survey site name: EAST CABIN CREEK
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: GRAPEVINE DOME
LITTLE FINGER RIDGE

Township: Range: Section: TRS comments:
007S 030E 03 W2

Precision: M
Survey date: 1983-07-12 Elevation: 3800 -
First observation: 1983 Slope/aspect:
Last observation: 1983-07-12 Size (acres): 0

Location:
EAST CABIN CREEK ALONG YELLOWTAIL RESERVOIR (BIG HORN CANYON NATIONAL
RECREATION AREA; RESERVOIR LABELED AS BIGHORN LAKE ON GRAPEVINE DOME
QUAD).

Element occurrence data:
UNKNOWN.

General site description:
RIPARIAN BOTTOM IN POPULUS/ACER COVER CLASS.

Land owner/manager:
BIGHORN CANYON NATIONAL RECREATION AREA
CROW INDIAN RESERVATION

Comments:
EAST CABIN CREEK IS DISCUSSED AS A "UNIQUE AREA" BY LICHVAR, ET. AL.
(1984), PP. 8-9.

Information source: LICHVAR, R. W., E. I. COLLINS AND D. H. KNIGHT.
1984. CHECKLIST OF VASCULAR PLANTS FOR THE BIGHORN
CANYON NATIONAL RECREATION AREA. UNPUBLISHED
REPORT. 51 PP.

Specimens: LICHVAR, R. W. (6392). 1983. SPECIMEN #354913. RM.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: SULLIVANTIA HAPEMANII
Common Name: WYOMING SULLIVANTIA

Global rank: G3T3 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDSAX0X012.002
Element occurrence type:

Survey site name: OK-A-BEH ROAD
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: YELLOWTAIL DAM

Township: Range: Section: TRS comments:
006S 031E 32 S2

Precision: M
Survey date: 1983-06-14 Elevation: 4550 -
First observation: 1983 Slope/aspect:
Last observation: 1983-06-14 Size (acres): 0

Location:
OK-A-BEH ROAD (CA. 3 AIR MILES S. OF FORT SMITH; BIGHORN CANYON
NATIONAL RECREATION AREA.)

Element occurrence data:
UNKNOWN.

General site description:
OPEN GRASSY SLOPE WITH LUPINUS.

Land owner/manager:
BIGHORN CANYON NATIONAL RECREATION AREA
CROW INDIAN RESERVATION

Comments:
UNUSUAL HABITAT DESCRIPTION FOR THIS SPECIES; NEEDS FIELD SURVEY.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: COLLINS, E. (760). 1983. SPECIMEN #355239. RM.

June, 1997

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Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: SULLIVANTIA HAPEMANII
Common Name: WYOMING SULLIVANTIA

Global rank: G3T3 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDSAX0X012.003
Element occurrence type:

Survey site name: BLACK CANYON
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: YELLOWTAIL DAM
PEYOTE POINT

Township: Range: Section: TRS comments:
007S 031E 06 SW4

Precision: M
Survey date: 1983-08-09 Elevation: 3700 -
First observation: 1983 Slope/aspect:
Last observation: 1983-08-09 Size (acres): 0

Location:
BLACK CANYON CAMPGROUND (CA. 4 AIR MILES. SSW OF FORT SMITH; BIGHORN
CANYON NATIONAL RECREATION AREA).

Element occurrence data:
UNKNOWN.

General site description:
RIPARIAN BOTTOM.

Land owner/manager:
BIGHORN CANYON NATIONAL RECREATION AREA
CROW INDIAN RESERVATION

Comments:

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: LICHVAR, R. W. (6908). 1983. SPECIMEN #355090. RM.

June, 1997

83

Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: SULLIVANTIA HAPEMANII
Common Name: WYOMING SULLIVANTIA

Global rank: G3T3 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDSAX0X012.006
Element occurrence type:

Survey site name: BOX CANYON
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: YELLOWTAIL DAM

Township: Range: Section: TRS comments:
006S 031E 19 SW2

Precision: M
Survey date: 1983 Elevation: 3800 -
First observation: 1983 Slope/aspect:
Last observation: 1983 Size (acres): 0

Location:
BOX CANYON, BIGHORN CANYON NATIONAL RECREATION AREA, CA. 0.9 AIR MILES
SSW OF YELLOWTAIL DAM.

Element occurrence data:
UNKNOWN.

General site description:
"SULLIVANTIA SEEPS" - IN BOX CANYON, "CALCAREOUS FORMATIONS ON THE
CANYON WALLS HAVE WEATHERED AND WASHED INTO AN AMPHITHEATER. MOSSES
AND SULLIVANTIA COVER THE SOFT LIMESTONE-DERIVED MOUNDS IN THE CANYON.
DURING EARLY SUMMER THIS AMPITHEATER IS ONE LARGE WATERFALL, BUT BY
LATE SUMMER THE WATER ONLY SEEPS FROM THE LEDGES." (LICHVAR, ET AL.,
1984, PP. 9-10.)

Land owner/manager:
BIGHORN CANYON NATIONAL RECREATION AREA

Comments:
VOUCHER SPECIMEN NOT MENTIONED IN REPORT; BOX CANYON IS DESCRIBED AS
"THE BEST EXAMPLE OF SUCH SEEPS."

Information source: LICHVAR, R. W., E. I. COLLINS AND D. H. KNIGHT.
1984. CHECKLIST OF VASCULAR PLANTS FOR THE BIGHORN
CANYON NATIONAL RECREATION AREA. UNPUBLISHED
REPORT. 51 PP.

Specimens:

June, 1997

84

Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: VIBURNUM LENTAGO
Common Name: NANNYBERRY

Global rank: G5 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDCPR070B0.002
Element occurrence type:

Survey site name: YOUNGS CREEK
EO rank:
EO rank comments:

County: BIG HORN

USGS quadrangle: BAR V RANCH

Township: Range: Section: TRS comments:
009S 038E 21 SW4NE4

Precision: S
Survey date: Elevation: 4025 -
First observation: 1980 Slope/aspect:
Last observation: 1980-07-07 Size (acres): 1

Location:
YOUNGS CREEK, 2.8 AIR MILES ESE OF THE BAR V RANCH.

Element occurrence data:
VERY INFREQUENT, ONLY 1 OR 2 PLANTS.

General site description:
RIPARIAN WOODS WITH POPULUS, SALIX, CORNUS, AND RUDBECKIA LACINIATA.

Land owner/manager:
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)
CROW INDIAN RESERVATION

Comments:
EXACT LOCATION INITIALLY PROVIDED BY K. SCOW, WESTECH, HELENA, MT.

Information source: LESICA, PETER. DIVISION OF BIOLOGICAL SCIENCES,
UNIVERSITY OF MONTANA, MISSOULA, MT 59812. PHONE
406/728-8740.

Specimens: LESICA, P., AND J. ELLIOTT. (1113). 1980. SPECIMEN
#84374. MONTU.

June, 1997

85

Montana Natural Heritage Program
Plant Species of Special Concern for Consideration in the Tongue River Area

Scientific Name: VIBURNUM LENTAGO
Common Name: NANNYBERRY

Global rank: G5 Forest Service status:
State rank: S1 Federal Status:

Element occurrence code: PDCPR070B0.003
Element occurrence type:

Survey site name: BAR V RANCH
EO rank: A
EO rank comments: VERY COMMON, FEW EXOTICS.

County: BIG HORN

USGS quadrangle: BAR V RANCH

Township: Range: Section: TRS comments:
009S 037E 12 SE4

Precision: S
Survey date: 1994-06-08 Elevation: 4350 -
First observation: 1994-06-08 Slope/aspect: 15% / NORTH
Last observation: 1994-06-08 Size (acres): 20

Location:
YOUNGS CREEK, 0.25 MILE SOUTHWEST OF BAR V RANCH HEADQUARTERS ALONG
OLD ROAD.

Element occurrence data:
>1000 PLANTS, FLOWERING TO IMMATURE FRUIT, UP TO 8 FEET TALL. VERY
COMMON.

General site description:
MOIST, SHADED, SILTY RESIDUAL MOUNTAIN SLOPES, OPENING OF AN ASPEN
GROVE. SANDSTONE/SHALE PARENT MATERIAL. ASSOCIATED SPECIES: POPULUS
TREMULOIDES, CORNUS STOLONIFERA, AMELANCHIER ALNIFOLIA, SANICULA
MARILANDICA, CAREX SPRENGELLII, OSMORHIZA SPP., VIOLA CANADENSIS,
DISPORUM TRACHYCARPUM.

Land owner/manager:
CROW INDIAN RESERVATION
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:
OBERSEVED BY P. LESICA. ROADS, SOME WEEDS, ON CATTLE RANCH.

Information source: LESICA, PETER. DIVISION OF BIOLOGICAL SCIENCES,
UNIVERSITY OF MONTANA, MISSOULA, MT 59812. PHONE
406/728-8740.

Specimens: LESICA, P. (6317). 1994. SPECIMEN #119247. MONTU.

Appendix B. Species Photos

Scientific Name

Amorpha canescens

Asclepias stenophylla

Astragalus aretioides

Astragalus barrii

Astragalus geyeri

Carex gravida

Centaurium exaltatum

Cercocarpus montanus var *glaber*

Chenopodium subglabrum

Cleome lutea

Cyperus schweinitzii

Dichanthelium oligosanthes var *scribnerianum*

Eupatorium maculatum

Gratiola ebracteata

Grayia 'spinosa

Penstemon grandiflorus

Physaria didymocarpa var *lanata*

Plagiobothrys leptocladus

Psoralea hypogaea

Sullivantia hapemanii

Viburnum lentago

Photo Gallery

Amorpha canescens
Lead Plant (Fabaceae)



Photo by John Challey

[Photo Gallery Search](#)

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Montana Natural Heritage Program
1515 East Sixth Avenue
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Fax: (406) 444-0581

Photo Gallery

Asclepias stenophylla

Narrowleaf Milkweed (Asclepiadaceae)



Photo by Bonnie Heidel

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Photo Gallery

Astragalus aretioides
Sweetwater Milkvetch (Fabaceae)



Photo by Peter Lesica

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Photo Gallery

Astragalus barrii

Barr's Milkvetch (Fabaceae)



Photo by Steve Shelly

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Photo Gallery

Astragalus geyeri
Geyer's Milkvetch (Fabaceae)



Photo by Peter Lesica

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Photo Gallery

Carex gravida

Pregnant Sedge (Cyperaceae)



Photo by Hollis Marriott

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Photo Gallery

Centaurium exaltatum

Western Centaury (Gentianaceae)



Photo by Joe Duft

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Photo Gallery

Cercocarpus montanus var glaber
Birchleaf Mountain-mahogany (Rosaceae)



Photo by Dee Strickler

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Photo Gallery

Chenopodium subglabrum

Smooth Goosefoot (Chenopodiaceae)

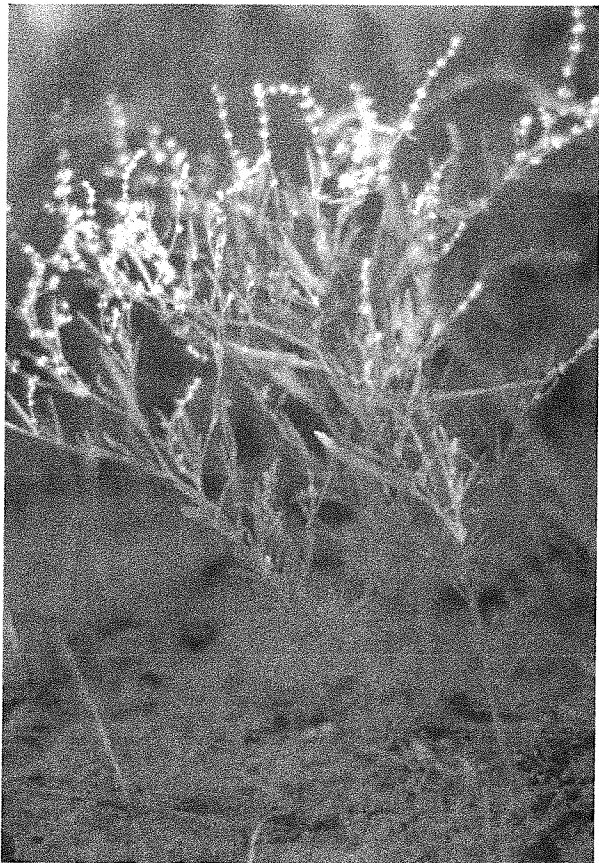


Photo by Bonnie Heidel

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Photo Gallery

Cleome lutea

Yellow Bee Plant (Capparaceae)

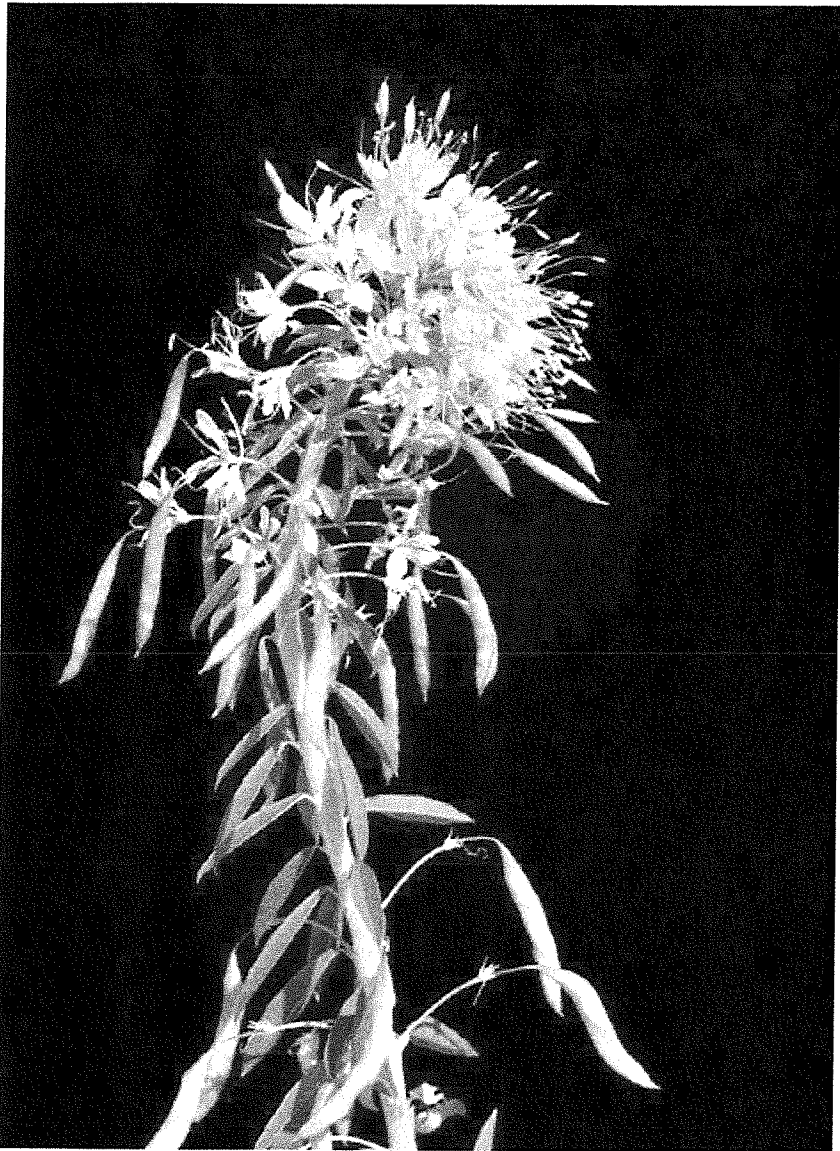


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Photo Gallery

Cyperus schweinitzii

Schweinitz' Flatsedge (Cyperaceae)



Photo by John Challey

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Dichanthelium oligosanthos var scribnerianum
Scribner's Panic Grass (Poaceae)



Photo by John Challey

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Eupatorium maculatum
Joe-pye Weed (Asteraceae)



Photo by John Challey

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Photo Gallery

Gratiola ebracteata

Bractless Hedge-hyssop (Scrophulariaceae)



Photo by Peter Lesica

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Photo Gallery

Grayia spinosa

Spiny Hopsage (Chenopodiaceae)



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Photo Gallery

Penstemon grandiflorus

Large Flowered Beardtongue (Scrophulariaceae)

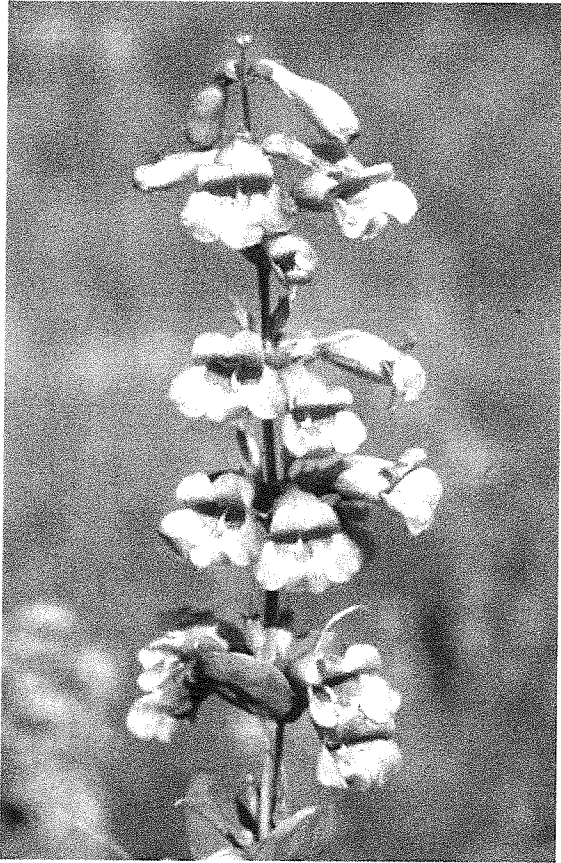


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Physaria didymocarpa var lanata
Woolly Twinpod (Brassicaceae)



Photo by Walter Fertig

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Photo Gallery

Plagiobothrys leptocladus

Slender-branched Popcorn-flower (Boraginaceae)



Photo by Peter Lesica

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Photo Gallery

Psoralea hypogaea

Little Indian Breadroot (Fabaceae)



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Sullivantia hapemanii

Wyoming Sullivantia (Saxifragaceae)



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Viburnum lentago
Nannyberry (Caprifoliaceae)



Photo by John Challey

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Plant Species of Special Concern Survey Form

1997 Revision

MONTANA NATURAL HERITAGE PROGRAM

1515 E. Sixth Avenue, Helena, MT 59620-1800

SCIENTIFIC NAME: _____ DATE OF SURVEY: ____/____/____

OBSERVER(S): _____

WORK LOCATION / ADDRESS: _____

Location: (attach a copy of pertinent 7.5' or 15' topographic map section with locations of populations/subpopulations outlined, one map for each sensitive species described.)

COUNTY: _____ USGS QUAD: _____

TOWNSHIP: _____ RANGE: _____ SEC.(s): _____ ¼ SEC.: _____

ADDITIONAL T/R/S, SECTIONS OR ¼ SEC.: _____

NATL. FOREST DISTRICT/BLM DISTRICT RA/OTHER: _____

DIRECTIONS TO SITE (Refer to towns, roads, trails, other geographic features): _____

Species Autecology

TOTAL NUMBER OF INDIVIDUALS (estimated or exact population count; sum clumps or stems if vegetative): _____

NUMBER OF SUBPOPULATIONS AND SUBTOTALS (if applicable): _____

SIZE OF AREA COVERED BY POPULATION (acres): _____

PHENOLOGY (% flowering, fruiting, vegetative): _____

EVIDENCE OF DISEASE, PREDATION, INJURY: _____

EVIDENCE OF SEED DISPERSAL, ESTABLISHMENT: _____

POPULATION TREND/OTHER COMMENTS: _____

Habitat: (Describe the distinguishing features of the environment on next page, adding landform and the nature of the species' habitat in the setting):

ELEVATION (mean or range): _____ ASPECT: ☐ N ☐ NE ☐ E ☐ SE ☐ S ☐ SW ☐ W ☐ NW

% SLOPE: _____ SLOPE SHAPE ☐ Concave ☐ Convex ☐ Straight ☐ Other _____

TOPOGRAPHY: ☐ Crest ☐ Upper ☐ Mid ☐ Lower ☐ Bottom ☐ Other _____

MOISTURE: ☐ Dry ☐ Moist ☐ Saturated ☐ Inundated ☐ Seasonal seepage ☐ Other _____

LIGHT EXPOSURE: ☐ Open ☐ Shaded ☐ Partial shade ☐ Other _____

PARENT MATERIAL: _____

SURFACE COVER (TOTAL %): MOSS/LICHEN _____ BASAL VEG. _____ BARE GROUND _____

SOIL TEXTURE/SERIES: _____

CANOPY COVER: TREE (%) _____ SHRUB (%) _____ FORB (%) _____ GRAMINOID (%) _____

PLANT COMMUNITY: (dominant species at present, age and structure notes): _____

CLIMAX VEGETATION (if not above): _____

ADDITIONAL ASSOCIATED PLANTS (include most common, conspicuous, and characteristic spp.): _____

EVIDENCE OF DISTURBANCE: _____

Documentation:

PHOTOGRAPH TAKEN? (if so, indicate photographer and depository): _____

SPECIMEN TAKEN? (if so, list collector, collection #, and repository): _____

IDENTIFICATION (name of person making determination, and/or flora used): _____

ECODATA PLOT NUMBER (attach photocopied data sheets): _____

OTHER DOCUMENTATION OR REFERENCES: _____

Comments: